

Balmer Lawrie & Co Ltd (बामर लॉरी एंड कंपनी लिमिटेड)

(A Government of India Enterprise) (भारत सरकार का एक उद्यम)

Engineering & Projects (इंजीनियरिंग और परियोजनाएं)

21, Netaji Subhas Road (21, नेताजी सुभाष रोड)

Kolkata - 700 001 (कोलकाता – 700 001)

Interior work, Furnishing, Internal painting, air-conditioning and finishing work of Office Building for Central Warehouse

At

AMTZ, Andhra Pradesh (केंद्रीय गोदाम, ए एम टी जेड, आंध्र प्रदेश में कार्यालय भवन के लिए आंतरिक कार्य, फर्निशिंग, आंतरिक पेंटिंग, एयर कंडीशनिंग और परिष्करण कार्य)

Tender No. EP / AMTZ / CWH / INT / 09

Tender Date: 17.10.2019

Due Date: 06.11.2019, 16:00 Hrs

Unpriced Part (Part-I)

TENDERER'S CHECKLIST POINTS

Tenderer shall require filling in the table below appropriately:

SI No.	Submission of Document	Bidder's Confirmation/ Submission (Yes / No)
1	Earnest Money Deposit	
2	90 days validity of the offer confirmation	
3	Audited Annual Reports (for past three years)	
4	Copy of Work Order and Completion Certificates for similar job as per Pre-qualification Criteria	
5	Power of Attorney of the Signatory	
6	PAN	
7	Provident Fund Registration	
8	GSTIN Registration	
9	Valid MSE or NSIC certificate as per tender if applicable	
10	Price Schedule in Un-priced Bid duly blanked out and signed	
11	Tender Document (along with addendum if any) duly signed and stamped on all pages	
12	Price quoted strictly as per Tender price schedule	
13	Payment Terms in compliance to tender requirement	
14	Completion Period in compliance to tender requirement	
15	LD clause in compliance to tender requirement	
16	All others Technical & Commercial Terms & Conditions shall remain unaltered as per Tender document	

Hard copies of the above confirmatory documents must be sent before due date of submission of online tenders.

Contractor's Information

Sl. no.	Description	Details to be filled up by Vendor/Supplier
1	Name1 (max. 35 char.)	
2	Name2 (max. 40 char.)	
3	Street/House No. (max. 50 char.)	
4	Street1 (max. 40 char.)	
5	Street2 (max. 40 char.)	
6	PIN Code (Postal Index No. e.g. "700001") (max. 6 char.)	
7	City/Place (e.g. "Kolkata" or "Dehradun") (max. 40 char.) or as the name of the city	
8	Country ("India" or "England" or as the name of country be)	
9	State (Name the state from where the office of Vendor/Supplier operates)	
10	First Tel. No. (With STD Code): (e.g. 033-22225280 or 022-66552814) (max. 30 char.)	
11	First Fax No. (with STD Code)	
12	Contact Person	
13	First Mobile No.	
14	E-mail Address) (max. 40 char.)	
15	PAN No.:	
16	GSTIN Registration No.:	
17	GSP Name (GST Suvidha Provider)	
18	SAC Code no.	
19	Bank Name (max. 60 char.)	
20	Street (max. 35 char.)	
21	City (max. 35 char.)	
22	Branch (max. 40 char.)	
23	IFSC Code	
24	MICR Code	
25	Account No.	
26	Type of Account (Current, Savings, etc.)	

LIST OF CONTENT:

UN-PRICED PART (PART I)

- 1. NOTICE INVITING TENDER**
- 2. CONDITION OF CONTRACT**
- 3. TECHNICAL SPECIFICATIONS**

PRICED PART (PART II)

- 1. SCHEDULE OF WORK**
- 2. TENDER DRAWINGS**

NOTICE INVITING TENDER
Tender No. EP / AMTZ / CWH / INT / 09

Balmer Lawrie & Co. Ltd. invite ONLINE BIDS from experienced, competent and resourceful contractor for Interior work, Furnishing, Internal painting, air-conditioning and finishing work for Office Building at AMTZ, Andhra Pradesh.

1.0 SCOPE OF WORK

The tender under reference covers **developing detail interior drawings, supplying all materials as per scope & approval to complete interior work, furnishing, internal painting, air-conditioning and finishing work for Office Building of Central Warehouse at AMTZ, Visakhapatnam, Andhra Pradesh** as mentioned in Schedule of Work, Conditions of Contract (COC), technical specifications and drawings along with all enabling work as may be required for successful completion of the job.

Successful bidder needs to submit all detail drawings and samples of all materials and catalogue of furniture as per approved make and shall obtain approval from the Owner prior to commencing work. Owner shall have the right to choose colour and texture of all samples submitted by successful bidder. Bidder shall supply all materials only after obtaining approval from the Owner.

All approved samples shall be properly tagged and preserve till supply of last consignment. Owner will release the payment only after matching the approved samples with installed/fixed materials.

2.0 COMPLETION PERIOD

Time is the essence of the contract. The time schedule for total work according to the contract shall be **Six (6) weeks** from the date of placement of order. Following timeline shall strictly be adhered to:

- a. Preparation and submission of all detail drawings of false ceilings, internal partitions, work stations, tables, chairs, reception counter, storage cabinets, cut-outs etc
- b. Contractor shall require to submit samples prior to taking up the job. It's a newly built office areas, so site work may commence immediately upon receipt of order.

3.0 EARNEST MONEY DEPOSIT

3.1 Unpriced Part of the Bid should be accompanied by a Demand Draft or Bank Guarantee of **Rs 11,000/-** (Rupees eleven thousand only) towards earnest money deposit (EMD) executed by any scheduled bank drawn in favour of M/s Balmer Lawrie & Co Ltd. payable at Kolkata as per format enclosed. EMD submitted by way of Bank Guarantee should be valid for a minimum period of 90days after the due date of tender submission.

3.2 Earnest Money deposit (EMD) is exempted for agencies registered under NSIC or coming under the definition of Micro and Small Industries and holding valid

registration certificates covering the tendered items/work. Declaration of Udyog Aadhar Memorandum (UAM) by the MSE parties on Central Public Procurement Portal (CPPP) shall be mandatory. Copy of valid NSIC certificate or "Micro and Small" industry certificate must be submitted in this regard.

- 3.3 For the successful bidder, the EMD will be refunded only after they submit the necessary Security Deposit against the work order placed on them.
- 3.4 For the unsuccessful bidders, the EMD will be refunded only after the successful bidder has accepted the work order and the acknowledgment of the same has been received by BLCL.
- 3.5 EMD is liable to forfeiture in the event of:
 - a) Withdrawal of offers during validity period of the offer
 - b) Non-acceptance of orders by the bidder within the stipulated time after placement of order.
 - c) Any unilateral revision made by the bidder during the validity period of the offer.
 - d) Non-submission of Security Deposit.
 - e) Bidders submitting false/fabricated/bogus documents in support of their credentials

4.0 PRE-QUALIFICATION CRITERIA

The prospective tenderers shall fulfill the following pre-qualification criteria:

- 4.1 Average annual turnover of the tenderer shall be **Rs 50 lakhs** during last three financial years ending 31st March, 2019.
- 4.2 The tenderer should have successfully executed Interior, furnishing & allied work of the following minimum values during past seven (7) years ending last day of month previous to the one in which applications are invited should be either of the following: -
 - a. 3 jobs each of value not less than **Rs 8.8 lakhs** or
 - b. 2 jobs each of value not less than **Rs 11.0 lakhs** or
 - c. 1 job of value not less than **Rs 17.6 lakhs**

Copy of work orders and completion certificates from the owner or from their consultant should be enclosed as supportive documents. Order copy issued by the owner to the consultant shall also be furnished if the completion certificate is issued by the consultant on behalf of the owner.

- 4.3 Tenderer should have valid PAN, GST registration & PF registration. Copy of the same shall be submitted along with techno commercial offer.

5.0 TENDER DOCUMENTS

Tender Documents comprises two parts viz. Part-I (Un-priced) and Part-II (Priced). The Un-priced Part consists of Notice Inviting Tender, Condition of Contract,

Technical Specification and Drawings. The Priced Part consists of Priced Schedule. Bidders are requested to download the tender document and read all the terms and conditions mentioned in the tender document and seek clarification if any, from **Sri G C Saha, Head (E&P), Mob 9748773900, e-mail: saha.gc@balmerlawrie.com**. Any clause defining offline price bid submission in the tender document shall not be considered.

6.0 **TENDER SUBMISSION**

The intending tenderers shall be deemed to have visited the site and familiarise themselves thoroughly with the prevailing site conditions before submission of the tender. Non-familiarity with the site conditions will not be considered reason either for extra claim or for not carrying out the work in strict conformity with the drawing, specification and time schedule.

The tenderer is required to register on the e-procurement site <https://balmerlawrie.eproc.in> and submit their bids online.

For registration and online bid submission tenderer may contact the following officials at the HELP DESK of M/s C1 India on browsing to the website <https://balmerlawrie.eproc.in> during business hours (10:00 a.m. to 06:30 p.m.) from Monday to Friday (Excluding holidays of the Company):

Dedicated Helpdesk for Balmer Lawrie			
Contact Person	E-Mail ID	Tel. No.	Days
1. Mr. Tirtha Das (Kolkata)	tirtha.das@c1india.com	+91-9163254290	MON - FRI
2. Mr. CH. Mani Sankar (Chennai)	chikkavarapu.manisankar@c1india.com	+91-6374241783	MON - SAT
3. Ms. Ujwala Shimpi (Mumbai)	ujwala.shimpi@c1india.com	+91-22-66865608	MON - FRI
4. Helpdesk Support (Kolkata)	blsupport@c1india.com	+91-8017272644	MON - SAT
Escalation Level 1			
Mr. Tuhin Ghosh	tuhin.ghosh@c1india.com	+91-8981165071	
Escalation Level 2			
Mr. Sandeep Bhandari	sandeep.bhandari@c1india.com	+91-8826814007	
Escalation Level 3			
Mr. Achal Garg	achal.garg@c1india.com		
In case, you are unable to get in touch with any of the Technical Support Associates, kindly drop a mail at blsupport@c1india.com mentioning your Name and Mobile No. One of C1 India's associates will get back shortly.			

The tenderer shall authenticate the bid with his Digital Certificate for submitting the bid electronically on e-procurement platform and the bids not authenticated by digital certificate of the tenderer will not be accepted on the e-procurement platform.

All the tenderers who do not have digital certificates need to obtain Digital Certificate **(with both Signing and Encryption Components)**. They may contact help desk of M/s C1 India.

The tenderer shall furnish the original Demand Draft /BG for EMD to the tender inviting authority so as to reach on or before the due date and time of the Tender either personally or through courier or by post and the receipt of the same within the stipulated time shall be the responsibility of tenderer. The Company shall not take any responsibility for any delay or non-receipt. If any of the documents furnished by the tenderer is found to be false/fabricated/bogus, the tenderer is liable for black listing, forfeiture of the EMD, cancellation of work and criminal prosecution.

The bidder is requested to read all the terms and conditions mentioned in the tender Document and seek clarification if any from if in doubt from **Sri G C Saha, Head (Engineering & Projects)**.

The bidder should keep track of any Addendum / Corrigendum / Amendment issued by the Tender Inviting Authority on time-to-time basis in Company's website ([www. balmerlawrie.com](http://www.balmerlawrie.com)) and e-procurement site (<https://balmerlawrie.eproc.in>). No separate newspaper advertisement shall be published for such Addendum / Corrigendum / Amendment etc. The Company calling for tenders shall not be responsible for any claims/problems arising out of this.

The tenderer should complete all the processes and steps required for bid submission. The successful bid submission can be ascertained once acknowledgement is given by the system through bid submission number after completing all the process and steps. M/s C1 India is not responsible for incomplete bid submission by users. Tenderers may also note that the incomplete bids will not be saved by the system and are not available for the Tender Inviting Authority for processing.

Neither the Company (Balmer Lawrie & Co. Ltd.) nor the service provider (M/s C1 India) is responsible for any failure or non-submission of bids due to failure of internet or other connectivity problems or reasons thereof.

The hardcopies of the Bid Documents as explained above and also defined in clause no. 2.0 of Condition of Contract under sealed envelope should reach the office of **Head (E&P), Balmer Lawrie & Co Ltd, Engineering & Projects Department, 21 Netaji Subhas Road, Kolkata 700001**, on or before the due date of submission of tender. The Bidders who are submitting the Bids in person are requested to drop the same in our tender box located at the entrance of 2nd floor at the above address.

7.0 SUPPLY OF MATERIAL

All materials required for the work shall be supplied by the contractor.

8.0 TAXES & DUTIES

Rates shall be inclusive of all taxes, duties and applicable GST to be given separately.

9.0 PAN, GSTIN & PF registration

Tenderers are required to submit PAN, GST registration, Provident Fund registration along with Un-priced part of their offer, failing which their offer may be liable to be rejected.

10.0 NON-CONFORMANCE

Tenders not conforming to the abovementioned requirements are liable to be rejected.

11.0 VALIDITY OF OFFER

Tendered shall keep their offer valid for a period of 90 days from the date of opening of Unpriced bid.

12.0 RATES AND OTHER ENTRIES

- (a) The tenderer should quote for all items in the Schedule of Rates. The rates should be expressed in English both in figures and words. Where discrepancy exists between the two, the rates expressed in words will prevail. Similarly, if there is any discrepancy between unit rate and total amount, the unit rate will prevail.
- (b) The rates should be quoted in the same units as mentioned in the tender schedule of quantities.
- (c) All entries in the tender documents should be in ink / type. Corrections if any should be attested by full signature of the tenderer.
- (d) Every page of the tender document including annexure / enclosures shall be stamped and signed by the tenderer or his authorized representative thereby indicating that each and every page has been read and the points noted.

13.0 RIGHT TO ACCEPT OR REJECT TENDER

- 13.1 M/s Balmer Lawrie & Co. Ltd. reserves the right to accept or reject any or every tender without assigning any reason whatsoever / or to negotiate with the tenderer (s) in the manner it considers suitable. In the event of receipt of lowest price from more than one (1) bidders, fresh price bids shall be invited from the lowest bidders only to determine final lowest bidder for placement of order. Fresh price bids shall be submitted in a sealed hard envelop within 48 (forty-eight) hours of notification by BLCL.
- 13.2 Bids of any tenderer may be rejected if a conflict of interest between the bidder and Company (BLCL) is detected at any stage.

- 13.3 All the bids will be evaluated based on pre-qualification and other criteria as mentioned in this NIT. Tenders of those bidders who are not meeting the pre-qualification criteria will not be considered for commercial evaluation.
- 13.4 Tender if submitted through e-mail or fax shall be summarily rejected.
- 13.5 Hard copy of Price Bid should not be submitted in the envelope containing Un-priced documents failing which the bid will be summarily rejected.
- 13.6 **Clarifications /exceptions / deviations to the tender terms & conditions and specifications:**
Balmer Lawrie & Co. Ltd. expects Tenderers to confirm compliance to tender terms & conditions and specifications, failing which the Tenderers are liable to be rejected. Hence all Tenderers in their own interest are advised to submit their bids in all respects confirming to all terms & conditions of the bid document.

Bids shall be evaluated based on the information / documents available in the bid. Hence Tenderers are advised to ensure that they submit appropriate and relevant supporting documentation alongwith their proposal in the first instance itself. Bids not complying the requirements of bid documents will be rejected without any further opportunity.

For any Technical clarifications / queries Tenderers are requested to contact **Sri G C Saha e-mail: saha.gc@balmerlawrie.com** (from 10.00AM to 06.00PM, Monday - Friday).

for **Balmer Lawrie & Co Ltd.**

(G C Saha)
Head (Engineering & Projects)

CONDITIONS OF CONTRACT

1.0 DEFINITIONS

The following expressions hereunder and elsewhere in the contract documents used shall have the following meanings respectively assigned to them namely,

- 1.1 The "Owner / Employer" shall mean Balmer Lawrie & Co Ltd (BLCL), having its registered office at 21, Netaji Subhas Road, Kolkata - 700 001 and shall include its successors and assigns.
- 1.2 The "Project" shall mean **"Interior work, Furnishing, Internal painting, air-conditioning and finishing work of Office Building** abutting Central Warehouse at AMTZ, Visakhapatnam, Andhra Pradesh"
- 1.3 The 'Engineer-In-Charge'/'Engineer' shall mean the Engineer /Officer authorized by the 'Owner' for the purpose of the contract for overall inspection, Co-ordination and certification of billing.

2.0 DETAILS OF HARD COPIES TO BE SUBMITTED ALONG WITH THE TENDER

The tender, as submitted, shall consist of the following:

- (i) Hard copy of Un-priced Tender Document duly filled in, stamped and signed by the Tenderer as prescribed in different clauses of Tender documents. **No hard copy of priced bid shall be submitted. Priced bid shall only be submitted online. The price bid file in pdf format shall be downloaded from the website, bidder to fill in their item-wise rates & amounts on hard copy, stamp, sign, scan and upload the same.**
- (ii) Earnest money amounting to and in the manner specified along with the Un-priced bid or valid NSIC/ MSE Certificate
- (iii) The Power of Attorney or authorisation, or any other document consisting of adequate proof of the ability of the signatory to bind the bidder, in original, when the power of attorney is a special "Power of Attorney" relating to the specific tender of Visakhapatnam Port Logistics Pvt Ltd only. A notarized true copy of the "Power of Attorney" shall also be accepted in lieu of the original, if the power of attorney is a general "Power of Attorney". However, photocopy of such notarized true copy shall not be accepted.
- (iv) Similar work in past Seven years by the tenderer with copy of work orders and completion document from the client/ consultant appointed by the client.
- (v) Audited annual report for last three financial years.
- (vi) PAN / GST / PF

- (vii) Bank details and any other details as per enclosed format required in terms of this tender.

3.0 RATES AND OTHER ENTRIES

- (a) The tenderer should quote for all items in the Schedule of Rates. The rate should be expressed in English both in figures and words. Where discrepancy exists between the two, the rates expressed in words will prevail. Similarly, if there is any discrepancy between unit rate and total amount, the unit rate will prevail.
- (b) The rates should be quoted in the same units as mentioned in the tender schedule of quantities.
- (c) All entries in the tender documents should be in ink / type. Corrections if any should be attested by full signature of the tenderer.
- (d) Every page of the tender document including annexure / enclosures shall be stamped and signed by the tenderer or his authorised representative thereby indicating that each and every page has been read and the points noted.

4.0 RIGHT TO ACCEPT OR REJECT TENDER

The Owner reserves the right to accept or reject any or every tender without assigning any reason whatsoever / or to negotiate with the tenderer(s) in the manner the Owner considers suitable. The work may be split up if considered expedient.

5.0 SECURITY DEPOSIT

- (i) On acceptance of the Bid, Contractor shall within fifteen (15) days, deposit with Owner an Initial Security Deposit of 2% of the basic contract value and the same shall be in any of the following form:
 - a) Bank draft drawn on a Kolkata Branch of any Scheduled Bank in favour of Balmer Lawrie & Co Ltd.
 - b) Bank Guarantee executed by any Scheduled Bank as per proforma enclosed and shall be **valid at least sixty days** after the completion of work.
- (ii) If the Contractor fails to provide the Security Deposit within the period specified, such failure will constitute a breach of the Contract and Owner may be entitled to award the Work elsewhere at Contractor's risk and cost. The EMD of the bidder to whom Contract was awarded, shall be forfeited
- (iii) No interest shall be payable against Security Deposit.
- (iv) As and by way of additional security, from every progress bill of Contractor, Security Deposit in the form of Retention Money (interest free) at the rate of 10% (inclusive of initial security deposit of 2%) of the basic contract value of

such bill as determined before payment shall be retained by the Owner. Owner can permit Contractor to replace the Security Deposit / Retention Money so retained by Bank Guarantee at his discretion after successful completion of the work.

- (v) Wherever the Security Deposit / Retention Money is furnished by Contractor in any form other than in cash or Demand Draft, Contractor shall be entirely responsible to keep such form of security deposit enforceable by extending the validity thereof before one month of date of expiry and keep them enforceable, until released by Owner after the Defect Liability Period.
- (vi) The Security Deposit / Retention Money shall remain at the entire disposal of Owner as a security for satisfactory execution and completion of the Work(s). Owner shall be at liberty to deduct and appropriate from the Security Deposit / Retention Money such damages (liquidated or otherwise) and other dues and recoveries from Contractor under this Contract and the amount by which Security Deposit / Retention Money is reduced by such appropriations, will be made by further deductions from Contractor's subsequent bills to that extent as to make up the Security Deposit / Retention Money.
- (vii) Notwithstanding anything to contrary, in as much as the Security Deposit is to be in cash with Owner, Owner shall be entitled to enforce any of the approved forms of Security Deposit furnished by Contractor at any time and realise cash thereof irrespective of whether or not Contractor disputes such right. However, if Contractor obtains the extension of the time limit, if any, for the enforceability of such form of Security Deposit and intimates Owner of such extension within one month before expiry, Owner may not enforce such form of Security Deposit, unless it has otherwise become enforceable.
- (viii) On due and satisfactory performance of all the obligations of Contractor under this Contract including completion of work in all respects, carrying out the obligations of Contractor during Defect Liability Period, Retention Money shall be released by Owner subject to recoveries, deductions and retentions therefrom as provided under the Contract.

6.0 CONSTRUCTION WATER & POWER

The contractor has to make his own arrangement for both construction water and drinking water. The Owner does not undertake to supply water to the contractor.

All temporary arrangements for distribution of construction water shall be removed forthwith after completion of the work or if there is any hindrance caused to the other works, the contractor will re-route or remove the temporary lines at his own cost in a manner so as to continue his (contractor's) work in an uninterrupted manner.

Construction power as available at site would be made from the substation/distribution boards situated near the work site free of cost at single point

for general lighting only. Further arrangement for power distribution will be made by contractor depending upon the construction power requirement at his own cost as per Electricity Act and Rules framed there under and approved by Engineer-in-Charge.

The temporary line will be removed forthwith after the completion of the work or if there is any hindrance caused to the other works due to the alignment of these lines, the contractor will re-route or remove the temporary lines at his own cost.

7.0 SITE PARTICULARS

The intending tenderers shall be deemed to have visited the site and familiarised themselves thoroughly with the site conditions before submitting the tender. Non-familiarity with the site conditions will not be considered reason either for extra claims or for not carrying out the work in strict conformity with the drawings and specifications. Sri S K Shaw (phone no. 8116470411) or Sri P Das (phone no. 6289090838) may be contacted during office hours (Monday to Saturday 9.30AM to 6.00PM) to organise site visit.

8.0 SUPPLY OF MATERIAL

- 8.01 All materials required for the work shall be supplied by the contractor. In addition, all materials required for temporary and enabling work shall be arranged and provided by the Contractor. All incidental expenses, loading, unloading, transportation, handling, storage after delivery etc. shall be the responsibility of the contractor and cost towards such expenses should be included in the finished item rates.
- 8.02 All other materials, as required to complete the works in all respects according to the contract rates shall be inclusive of all freights and other taxes, duties, loading, unloading, transporting, handling and storage charges etc.

9.0 ON ACCOUNT PAYMENTS

- 9.01 On Account payments will be made to the Contractor during the progress of the work on the basis of Running Account Bills raised by the Contractor monthly or otherwise as the Engineer-in-Charge may specify in this regard, accompanied with the Measurement sheets signed and dated jointly.
- 9.02 No Running Bill(s) shall be made and / or certified for a total value of less than Rs.10,00,000/- (Rupees Ten lakh) only.
- 9.03 All on account payments shall be subjected to deduction therefrom of all dues to the Owner, advance, retention money and other money deductible within the provisions of this contract and as per Section 194-C of Income Tax Act, or any other Law, Rule or Regulation for the time being in force along with the recovery towards the adjustment of secured advance if any.
- 9.04 All lawful payments as provided under Workmen's Compensation Act, etc. not made by the Contractor / Sub-contractor, Owner reserves the right to deduct from the

Contractor's bills and remitted to the concerned Authority / Department or Body on Contractor's /Sub-contractor's behalf until sufficient proof is furnished by the Contractor / Sub-Contractor to the contrary.

All "On Account" Payments shall be regarded merely as an advance payment against the amounts due to the Contractor in terms of the contract and any such payments shall not be regarded as an acceptance or completion of any works paid for.

10.0 TIME FOR COMPLETION OF WORK

Time is the essence of the contract. The tenderer shall submit their plan to complete the whole work according to the overall time allowed for the execution of work as given in the Tender Documents and NIT.

- 10.0.1 The Contractor shall complete in all respects in accordance with the Contract, the entire work at each job site within the time specified in this behalf in the Time Schedule.
- 10.0.2 If the Owner so requires, the Progress Schedule in the form of CPM, giving the latest dates of starting and latest dates of finishing of various operations comprising the work as also the activities in the critical path and latest dates for achievement of specific milestones in respect of the work so as to complete in all respects the works (including testing and consequential operations) within the time provided in the Time Schedule. This Progress Schedule should also indicate the interlinking of the various activities and bring to light the specific/ critical items on which the inputs from the owner/ Engineer-in-Charge/ Consultant or other agencies, if any, would be required, to ensure adherence to the schedule.
- 10.0.3 If the Contractor shall fail to submit to the Owner/ EIC a Progress Schedule as envisaged above or if the Owner/EIC and Contractor fail to agree upon the Progress Schedule as envisaged above, then the Engineer-in-Charge shall prepare the Progress Schedule (the dates of progress as fixed by the Engineer-in-Charge being final and binding upon the Contractor except as herein otherwise expressed provided), and shall issue the Progress Schedule so prepared to the Contractor, which shall then be the Approved Progress Schedule and all the provisions of clauses 10.0.2 shall apply relative thereto.
- 10.0.4 Any reference in the Contract Documents to the Approved Progress Schedule" or to the "Progress Schedule" shall mean the "Approved Progress Schedule" specified in clause 10.0.2 above or the "Progress Schedule" prepared and issued by the Engineer-in-Charge as specified in clause 10.0.3 above, whichever shall be in existence. In the absence of such approved Progress Schedule or such Progress Schedule prepared by the Engineer-in-Charge, the Progress Schedule first prepared by the Contractor (with incorporation of the Owner's / Engineer-in-Charge's comments thereon if any), shall until such approved Progress Schedule or such Progress Schedule prepared by the Engineer-in-Charge comes into existence, be deemed to be the Progress Schedule for the purpose of the contract.

10.0.5 Within 7(seven) days of the occurrence of any act, event or omission which, in the opinion of the Contractor, is likely to lead to delay in the commencement or completion of any particular work(s or operation(s) or the entire work at any job site(s) and in such as would entitle the Contractor to an extension of the time specified in this behalf in the Progress Schedule(s), the Contractor shall inform the site engineer and the Engineer-in-Charge in writing of the occurrence of the act, event or omission and the date of commencement of such occurrence. Thereafter, if even upon the cessation of such act or event or the fulfilment of the omission, the Contractor in his opinion that an extension of the time specified in the Progress Schedule relative to the particular operation(s) or item(s) or work or the entire work at the job site(s) is necessary, the Contractor shall within 7 (seven) days after the cessation or fulfilment as aforesaid make a written request to the Engineer-in-Charge for extension of the relative time specified in the Progress Schedule and the Engineer-in-Charge may at any time prior to completion of the work extend the relative time of completion in the Progress Schedule for such period(s) as he considers necessary, if he is of opinion that such act, event or omission constitutes a ground for extension of time in terms of the Contract and that such act, event or omission has in fact resulted in insurmountable delay to the Contractor.

10.0.5.1 The application for extension of time made by the Contractor to the Engineer-in-Charge should contain full details of-

- a) The notice under clause 10.0.5 with a copy each of the notice sent to the Engineer-in-Charge and Site Engineer.
- b) The activity for the Progress Schedule affected.
- c) The bottleneck(s) or obstruction(s) perceived/ experienced, and the reason(s) therefor,
- d) Extension required/ necessitated on account of c) above
- e) Extension required/ necessitated on account of reasons attributable to the Owner,
- f) Extension required/ necessitated on account of force majeure reasons, and
- g) The total extension of time (if any) required/ necessitated for completion, taking the above into account and after eliminating all overlaps.

10.0.5.2 The opinion/ decision of the Engineer-in-Charge in this behalf and as to the extension of time necessary shall, subject to the provisions of clause 10.0.6 hereof, be final and binding upon the Contractor.

10.0.6 Notwithstanding the provisions of clause 10.0.5 hereof, the Owner may at any time at the request of the Contractor made by way of appeal either against the decision of the Engineer-in-Charge taken under clause 10.0.5 or against the Engineer-in-Charge's refusal to take a decision under the said clause. If satisfied of the work or any item or operation thereof such period(s) as the Owner may consider necessary, and the decision of the Owner as to the existence or otherwise of any grounds justifying the extension and to the period(s) of extension necessary shall be final and binding upon the Contractor.

- 10.0.7 Subject as elsewhere herein or in the contract documents expressly provided, only the existence of force majeure circumstances as defined in 10.0.8 hereof shall afford the Contractor a ground for extension of time for completion of the work or any part of the work or any operation(s) involved therein, and specifically without prejudice to the generality of the foregoing, inclement weather, strike, shutdown, third party breach, delay in supply of material(s) or commercial hardship shall not afford the Contractor a ground for extension of time or relieve the Contractor of his/its full obligations under the Contract, nor will any forced shutdown or idleness or other impediment in progress or completion of the work due to any reason whatsoever afford the Contractor a ground for extension of time or relieve the Contractor of his/its full obligations under the Contract except and to the extent otherwise elsewhere herein specifically provided, nor shall any shut down or idle time charges be payable by the Owner to the Contractor for delay in the commencement, progress or completion of the work due to any reason whatsoever, including due to the existence of force majeure circumstances.
- 10.0.8 The term "Force Majeure" as employed in this contract shall mean wars (declared or undeclared) or revolutions, civil wars, tidal waves, fires, major floods, earthquakes, epidemics, quarantine restrictions and freight embargoes and transporters strikes affecting the country as a whole.
- 10.0.9 Upon an extension of the time for completion of the work or any part of the work or any operation(s) involved therein pursuant to clause 10.0.5 or clause 10.0.6 hereof, the extended date/time of completion shall be deemed to be the relative date of completion in the Progress Schedule, and such extension shall constitute the sole remedy of the Contractor for and/or arising out of such delays, and the Contractor hereby waives any and all contrary rights.
- 10.0.10 The mere fact that the Owner shall not have terminated the contract or that the Owner or Engineer-in-Charge has permitted the Contractor, for the time being to continue with the work for its completion shall not prejudice the full rights and remedies available to the Owner under the contract arising out of the delayed completion, including the right of Liquidated Damages and/or termination. Such permission(s) shall unless specifically stated to be an extension of time under clause 10.0.5 or 10.0.6, as the case may be, not be construed as extension(s) of time extension under clause 10.0.5 or 10.0.6 hereof, and shall merely constitute an indication or intimation, as the case may be, of the Owner's willingness, for the time being, to accept the delayed completion, subject to its rights under the contract.
- 10.0.11 No assurance, representation, promise or other statement by any personnel, engineer or representative of the Owner in relation to extension of time for commencement or completion of any work(s) or operation thereof or of the entire works under the contract shall be binding upon the Owner or shall constitute an extension of time for commencement or completion of the entire works or any part or operation thereof within the provisions of clause 10.0.5 or 10.0.6 hereof, unless the same has been communicated to the Contractor in writing by the Engineer-in-Charge under clause 10.0.5 or by the General Manager under clause 10.0.6 and in

writing specifically states that it embodies an extension of time within the provisions of clause 10.0.5 or clause 10.0.6 as the case may be, and without prejudice to the afore-going, the mere agreement or prescription or signing of a Progress Schedule by the site engineer or any site representative of the Owner at variance of the progress schedule, as the case may be, referred to in clauses 10.0.2, 10.0.3 and/or 10.0.4 hereof or containing an extended time of commencement or completion in respect of the entire work(s) or any part or operation thereof shall not anyway constitute an extension of time in the terms of the Contract so as to bind the Owner or relieve the Contractor of all or any of his liabilities under the Contract, nor shall constitute a promise on behalf of the owner or a waiver by the Owner of any of its rights in terms of the contract relative to the performance of the contract within the time specified or otherwise, but shall be deemed only(at the most) as a guidance to the Contractor for better organising his work on a recognition that the Contractor has failed to organise his work and/or perform the same within the time specified in the Progress Schedule established within the provisions of clause 10.0.2 or clause 10.0.3 or clause 10.0.4 hereof, as the case may be.

11.0 WORKS CONTRACT

The entire work as per the scope of work covered under this contract shall be treated as "WORKS CONTRACT". GST & other taxes as applicable on "WORKS CONTRACT" shall be included in the quoted price.

12.0 LABOUR LAWS

- (i) No Labour below the age of eighteen (18) years shall be employed on Work.
- (ii) Contractor shall not pay less than what is provided under law to labourers engaged by him on Work.
- (iii) Contractor shall at his expense comply with all labour laws and keep Owner indemnified in respect thereof.
- (iv) In addition to above, rules and regulations as contained in Contract Labour (Regulation and Abolition) Act, 1970 will also be applicable for this contract. For the purpose of registration as per the above Act, Contractor may contact Owner for further details.
- (v) Contractor shall secure full safety of the workers / employees engaged by him in the Site premises and shall take at his own cost, insurances and such other safety regulations for the said purpose.

13.0 IMPLEMENTATION OF APPRENTICES ACT 1964

Contractor shall comply with the provisions of the Apprentices Act, 1964 and the Rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of Contract and the Engineer-in-Charge may, at his discretion, cancel Contract. Contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provision of the Act.

14.0 INSURANCE & INDEMNITY

Contractor shall at his own expense carry out and maintain insurance with reputable companies to the satisfaction of the Owner as follows:

(i) **Employees' Compensation Insurance:**

Insurance shall effect for all contractors' employees engaged in the performance of this Contract. If any of the work is sublet, after necessary approval by the Owner, the contractor shall require the Sub-contractor to provide 'Employees Compensation Insurance' for the Sub-contractor's employees, if such employees are not covered under the Contractor's Insurance.

It shall be responsibility of the contractor to ensure that he conforms to the various provisions of numerous statutory Acts as indicated below wherever applicable in respect of contract labour to be engaged by him. He shall also indemnify the Company against all losses/claims in respect of injuries to any contract labour engaged by him or physical damage to any Company property/company employees whatsoever, arising out of the execution of the work/carrying out of the contract. The contractor shall also indemnify the Company against claims or losses arising on account of non-compliance of statutory provisions or for any reason whatsoever in respect of the various Acts mentioned below or any other Act not mentioned hereunder which are relevant and applicable in the context :

- Contract Labour (Regulations & Abolitions) Act 1970
- Employees Provident Fund & Miscellaneous Provision Act 1952
- Employees State Insurance Act 1948
- Minimum Wages Act 1948
- Payment of Wages Act 1936
- Employees' Compensation Act 1923
- Payment of Bonus Act 1965
- Labour Welfare Fund.
- Building and other construction worker's Act 1996 and rule 1998

15.0 LIQUIDATED DAMAGE

- (i) If the Contractor is unable to complete the jobs specified in the scope of work within the period specified in NIT, it may request owner for extension of the time with unconditionally agreeing for payment of liquidated damage. Upon receipt of such a request, owner may at its discretion extend the period of completion and shall recover from the Contractor's running account bill, as an ascertained and agreed Liquidated Damages, a sum equivalent to **0.5%** of contract value for each week of delay or part thereof. The LD shall be limited to **10%** of the basic contract value.

The parties agree that the sum specified above is not a penalty but a genuine pre-estimate of the loss/ damage which will be suffered by the owner on

account of delay/ breach on the part of the Contractor and the said amount will be payable without proof of actual loss or damage caused by such delay/breach.

- (ii) Notwithstanding what is stated in Clause above, the Owner shall have the right to employ any other agency to complete the remaining work at the risk and cost of the Contractor, in the event of his failing to complete the work within the stipulated time or in the even progress of Contractor's work is behind schedule, as judged by the engineer-in-charge.
- (iii) Then the Engineer-in-Charge upon receiving necessary approval from competent Authority may in writing make a fair and reasonable extension of time for completion of the works as per provision of clause no. 10, provided further that the Contractor shall constantly use his best endeavour to the satisfaction of the Engineer-In-Charge to proceed with the works. Nothing herein shall prejudice the rights of the Contractor under clause herein above.
- (iv) The contractor may seek time extension for delay or anticipated delay as per clause no. 10.0.5 for reasons not attributable to them and in such case time extension may be given without imposition of Liquidated Damage.

16.0 FORCE MAJEURE

As explained in Clause no. 10.0.7.

17.0 TERMS OF PAYMENT

17.01 No mobilisation advance shall be paid to the contractor.

17.02 100% of the Running Account bill value will be payable by the Owner after submission of Bills accompanied by the relevant documents duly certified by Engineer-in-Charge.

17.03 10% of the above running account bills (basic value) shall be deducted from above payment towards retention money.

During payment of monthly running account bills, the initial security deposit of 2% of basic contract value will be adjusted first against 'Retention Money', but in no case total retention including initial security deposit shall exceed 10% of the executed value (basic) of work at any stage. The retention money will be released after completion and acceptance of work against issue of Bank Guarantee of the equal amount for defect liability and performance maintenance period, which shall be twelve (12) months from the date of issue of completion certificate by the Engineer-in-Charge.

18.0 ARBITRATION

Any dispute or difference arising under this Contract shall be referred under jurisdiction of Kolkata to a sole arbitrator to be appointed by the Chairman & Managing Director, Balmer Lawrie & Co. Limited and the provisions of Arbitration

and Conciliation (Amendment) Act, 2015 including any statutory modifications or enactment thereof shall apply to the Arbitration proceedings. The fees of the arbitrator, if any, shall be shared equally by both the parties. The award shall be a speaking award stating reason therefor and is final & binding on the parties. The proceeding shall be conducted in English language and courts at Kolkata will have exclusive jurisdiction to settle any dispute arising out of this contract.

- 18.1 Notwithstanding the existence of any dispute or arbitration in terms hereof or otherwise, the Contractor shall continue and to be bound to continue and perform the works to completion in all respects according to the Contract (unless the Contract or works be determined by the Owner) and the Contractor shall remain liable and bound in all respects under the Contract.

19.0 EXTRA ITEMS OF WORK

During the course of execution of the work, should the contractor come across items of work which are not covered under the Schedule of Rate or not included therein, the Contractor shall draw the attention of the Owner / Engineer-in-Charge to the same and such items of work shall be treated as extra only with the prior approval of Engineer-in-Charge in writing. Contractor shall submit a quotation along with the rate analysis for such accepted extra items before he commences work or purchases the materials in connection with such items.

For extra items, rates shall be derived from similar item rates included in the schedule of work. Where there is no such similar item available in the schedule, rate shall be analysed as follows:

Rate for extra item = Cost of material (a) + cost of labour inclusive of all necessary tools, tackles, equipment, machinery and consumable (b) required to carry out the work + 15% of (a+b) towards profit and overhead + taxes, duties etc.

20.0 RIGHT OF OWNER TO TERMINATE THE CONTRACT

- (i) If the Contractor being an individual or a firm commits any 'Act of Insolvency' or shall be adjudged as insolvent or being an Incorporated Company shall have an order for compulsory winding up made against it, or pass an effective resolution for winding up voluntarily or subject to the supervision of the Court or shall be unable to carry out and fulfil the contract and to give security therefore, is so required by the Engineer-In-Charge.

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 charge, encumber or sublet this contract without the consent in writing of the Engineer-in-Charge first obtained.

Or shall charge or encumber this contract or any payments due or which may become due to the Contractor thereunder.

Or if the Engineer-in-Charge shall certify in writing to the Owner that the Contractor -

- 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 Engineer-in-Charge written notice to proceed or
- c) has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon or
- d) has failed to remove materials from the site or to pull down and replace work for seven days after receiving materials or work were condemned and rejected by the Engineer-in-Charge under these conditions or
- e) has used sub-standard or inferior material or materials not conforming to the specifications or has employed inferior workmanship in carrying out the works or part thereof or has not exercised due diligence in execution of the said work, or

has neglected or failed persistently to observe and perform all or any of the acts, deeds, matters or things by this Contract to be observed and performed by the Contractor requiring the Contractor to observe or perform the same, or

- f) has to the detriment of good workmanship or in defiance of the Engineer-in-Charge's instructions to the contrary, sub-let or sub-contracted any part of the contract, or
- g) has failed to comply with the Engineer-in-Charge's instructions, or
- h) has in the opinion of the Engineer-in-Charge committed any breach of this Contract, then and in any of the said cases the Owner with the written consent of the Engineer-in-Charge may notwithstanding any previous waiver, after giving seven days' notice in writing to the Contractor terminate the Contract, but without hereby affecting the right of the Owner of the powers of the Engineer-in-Charge or the obligations and liabilities of the Contractor in respect of work, the contract shall continue enforce as fully as if the contract has not been so determined and the obligations of the contractor in respect of work subsequently executed shall continue as if the works subsequently executed has been executed by or on behalf of the

Contractor. And further, the Owner by its agents or servants shall been titled forthwith to enter upon and take possession of the works and all plants, tools, scaffoldings, sheds, machinery, steam and other power implements, machinery equipment and materials lying upon the site or the adjoining lands or roads and use the same as its own property and to employ the same by means of its own servants and workmen in carrying on and completing the work or by employing any other contractor and the Contractor shall not in any way interrupt or do any act, matter or things to prevent, intimidate or hinder such other contractor or other person or persons employed for completing and finishing or using the materials and plant for the work. When the works shall be completed or as soon thereafter as convenient, the Engineer-In-Charge shall give a notice in writing to the Contractor to remove his surplus materials and plant and should the Contractor fail to do so within the period of 14 days after receipt thereof by him, the Owner shall sell the same either by public auction or a private sale and shall be given credit to the contractor for the amount realized. The Engineer-In-Charge shall thereafter ascertain and certify in writing under this hand what (if anything) shall be due or payable to or by the owner, the expense or loss which the owner shall have been put to in procuring the works to be completed and the amount, if any, owing to the contractor and the amount which shall be so certified, shall thereupon be paid by the owner to the Contractor or by the Contractor to the Owner, as the case may be and the Certificate of the Engineer-In-Charge shall be final and conclusive and binding on the parties hereto. In the event of termination under this Clause, the Owner shall not be bound by any provision of this Contract to make any further payment to the Contractor until the said works are completed.

- (ii) Owner shall, at any time, be entitled to determine and terminate the Contract, if in the opinion of the Owner the cessation of the Work becomes necessary owing to paucity of funds or for any other cause whatsoever, in which case the cost of approved materials at the Site at current market rates as verified and approved by Engineer-in-Charge and of the value of the Work done to date by the Contractor shall be paid for in full at the specified in the Contract. A notice in writing from the Owner to the Contractor of such determination and termination and the reason therefore shall be the conclusive proof of the fact that the Contract has been so determined and terminated by the Owner.
- (iii) Should the Contract be determined under sub-clause of this clause and the Contractor claims payment to compensate expenditure incurred by him in the expectation of completing the Work, the Owner shall consider and admit such claim as are deemed fair and reasonable and are supported by the vouchers to the satisfaction of the Engineer-in-charge. The Owner's decision

on the necessity and propriety of such expenditure shall be final and conclusive and binding on the Contractor.

21.0 HSE REQUIREMENTS BY CONTRACTORS

Housekeeping

Contractors shall ensure that their work area is kept clean tidy and free from debris. The work areas must be cleaned on a daily basis. Any disposal of waste shall be done by the Contractor.

All equipment, materials and vehicles shall be stored in an orderly manner. Access to emergency equipment, exits, telephones, safety showers, eye washes, fire extinguishers, pull boxes, fire hoses, etc. shall not be blocked or disturbed.

Confined Space

Before commencing Work in a confined space the Contractor must obtain from Owner a Permit to Work, the Permit to Work will define the requirements to be followed.

As minimum Contractors must ensure the following:

- Confined spaces are kept identified and marked by a sign near the entrances
- Adequate ventilation is provided
- Adequate emergency provisions are in place
- Appropriate air monitoring is performed to ensure oxygen is above 20%
- Persons are provided with Confined Space training.
- All necessary equipment and support personnel required to enter a Confined space is provided.

Tools, Equipment and Machinery

The Contractor must ensure that all tools & equipment provided for use during the Work is:

- suitable for its intended use;
- safe for use, maintained in a safe condition and where necessary inspected to

ensure this remains the case (any inspection must be carried out by a competent person and records shall be available);

- Used only by people who have received adequate information, instruction and training to use the tool or equipment.
- Provided with Earth leakage circuit breaker (ELCBs) at all times when using electric power cords. Use of electrical tape for temporary repairs is prohibited.

Working at Height

Any Work undertaken where there is a risk of fall and injury is considered to be working at height.

For any Contractor Personnel working at height, Contractors shall provide fall prevention whenever possible and fall protection only when fall prevention is not practicable. Before commencing Work in a height the Contractor must obtain from Owner a Permit to Work, the Permit to Work will define the requirements to be followed. Supervisor must be present at all point of time, to ensure no deviation occur during the course of work.

Fall Prevention System

Fall prevention systems (e.g. fixed guardrails, scaffolds, elevated work platforms) must provide protection for areas with open sides, including exposed floor openings.

Fall Protection Systems

Where fall protection systems are used then the Contractor must ensure the following is applied:

- Only approved full body harness and two shock-absorbing lanyards are used,
- Prior establishment of a rescue plan for the immediate rescue of an employee in the event they experience a fall while using the system,
- Anchorage points must be at waist level or higher; and capable of supporting at least the attached weight,
- Lifeline systems must be approved by Owner before use.
- Use of ISI marked industrial helmet at all point of time.

Scaffolding

All scaffolds shall subject to a documented inspection by a competent person and clearly marked prior to use. The footings or anchorage for scaffolds shall be sound, rigid and capable of carrying the maximum intended load without settling or displacement. All scaffolding materials should be of MS tubular type.

Guardrails and toe-boards shall be installed on all open sides and ends of scaffold platforms. Scaffolds shall be provided with an access ladder or equivalent safe access. Contractor Personnel shall not climb or work from scaffold handrails, mid-rails or brace members.

Stairways and Ladders

Ladders should only be used for light duty, short-term work or access in line with the below and the Site Requirements.

- i) Fabricated ladders are prohibited.
- ii) Ladders will be secured to keep them from shifting, slipping, being knocked or blown over.
- iii) Ladders will never be tied to facility services piping, conduits, or ventilation ducting.
- iv) Ladders will be lowered and securely stored at the end of each workday.
- v) Ladders shall be maintained free of oil, grease and other slipping hazards
- vi) Ladders will be visually inspected by a competent person and approved for use before being put into service. Each user shall inspect ladders visually before using.
- vii) Ladders with structural defects shall be tagged "Do Not Use," immediately taken out of service, and removed from the Site by the end of the day.

Lifting Operations

Cranes and Hoisting Equipment

Contractors shall operate and maintain cranes and hoisting equipment in accordance with manufacturer's specifications and legal requirements.

Only Contractor Personnel trained in the use of cranes and hoists are permitted to use them.

Lifting Equipment and Accessories

All lifting equipment / accessories e.g., slings, chains, webbing, chain blocks, winches, jacks etc shall be indicated with their safe working load have an identification

number visible on the unit and be inspected and tested in accordance with legal requirements.

Damaged equipment / accessories and equipment shall be tagged “out of use” and immediately removed from Site.

Lockout Tag out (“LOTO”)

Prior to performing work on machines or equipment, the Contractor shall ensure that it is familiar with LOTO and Permit to Work procedures and that all of its affected Contractor Personnel receive the necessary training.

Barricades

Floor openings, stairwells, platforms and walkways, and trenching where a person can fall any distance shall be adequately barricaded and where necessary, well lit. Where there is a risk of injury from a fall then rigid barriers must be used.

Barricades must also be used to prevent personnel entering an area where risk of injury is high e.g., during overhead work activity or electrical testing etc. Such barricading must provide clear visual warning.

Compressed Gas Cylinders

Gas cylinder shall be securely stored and transported, and identified and used in line with the local requirements. Hose lines shall be inspected and tested for leaks in line with local requirements. Flash Back arrestor to be used to prevent any explosion due to back fire.

Electrical Safety

Prior to undertaking any work on live electrical equipment the Contractor must obtain a Permit to Work from Owner. Where ever possible live work should be avoided. Any control measures highlighted shall be implemented prior to work commencing.

The below measures will be taken:

- Work practices must protect against direct or indirect body contact by means of tools or materials and be suitable for work conditions and the exposed voltage level.
- Energized panels will be closed after normal working hours and whenever they are unattended. Temporary wiring will be de-energized when not in use.
- Only qualified electrical Contractor Personnel may enter substations and/or transformer and only after being specifically authorized by Owner.

Hot Works

A Permit to Work must be obtained from Owner prior to any hot works (welding, grinding, open flame work). Suitable fire extinguishing equipment shall be immediately available. Objects to be welded, cut or heated shall be moved to a designated safe location, or, if they cannot be readily moved, all movable fire hazards in the vicinity shall be taken to a safe place. Personnel working around or below the hot works shall be protected from falling or flying objects.

Prior to the use of temporary propane or resistance heating devices approval must be obtained from Owner.

Trenching, Excavating, Drilling and Concreting

A Permit to Work must be obtained from Owner and all underground lines, equipment and electrical cables shall be identified and located prior to beginning the work. The Contractor shall assign a competent Contractor Personnel to all trenching and excavation work.

Safe means of access and egress shall be located in trench excavations. Daily inspections shall be conducted by a competent Contractor Personnel for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems or other hazardous conditions.

Physical barriers shall be placed around or over trenches and excavations. Flashing light barriers shall be provided at night.

Environmental Requirements**Waste Management**

The Contractor is responsible to remove any waste generated by the work being done on the Site. The Contractor must dispose of the waste in line with the relevant local legislative requirements. The waste disposal route shall be documented and made available for Owner to review at any time and may be subject to Owner's prior approval.

Wastes (includes rinse from washing of equipment, PPE, tools, etc) are not to be poured into sinks, drains, toilets, or storm sewers, or onto the ground. Solid or liquid wastes that are hazardous or regulated in any way are not to be disposed of in general site waste receptacles.

Spills

The Contractor is responsible for the provision of adequate spill kits/protection and the clean-up and disposal costs arising from such spills.

Emissions

The Contractor shall identify and quantify any emission sources associated with the Works. The control measures associated with these emission shall be subject to the approval of Owner's Emissions include but are not limited to noise, dust, fumes, vapours.

22.0 PENALTIES IN CASE OF NON-COMPLIANCE OF SAFETY/HEALTH/ENVIRONMENT NORMS, RULES & REGULATIONS

The contractor has to follow all norms, rules and regulations related to safety, health and environment, In case of non-compliance of any one of these norms, rules and regulations by contractor's employee, the contractor shall be held responsible. If any violation or non-fulfilment of these norms, rules and regulation is observed by the Company's authority during checking at any time, a penalty of Rs 5000/- shall be imposed on the contractor for each occasion of non-compliance to these rules and regulations by him or his employees. The decision of the Company's authority shall be final and binding on to the contractor in this regard. The amount of penalties so imposed shall be recovered from the next RA Bill of the work or any other dues payable to the contractor by the authority.

BANK GUARANTEE VERIFICATION CHECK LIST

<u>CHECK LIST</u>	<u>YES</u>	<u>NO</u>
I Does bank guarantee compare verbatim with standard Balmer Lawrie & Co Ltd proforma for BG	_____	_____
II. a. Has the executing officer of the BG indicated his name, designation and power of attorney No./ Signing Power No. etc. on BG	_____	_____
b. Is each page of BG duly signed/initialed by the executant and last page is signed with full particulars as required in the Balmer Lawrie's standard proforma of BG and under the seal of the Bank.	_____	_____
c. Does the last page of the BG carry the signature of two witnesses along side the signature of the executing Bank Manager	_____	_____
III. a. Does the non judicial stamp paper for BG purchase in the name of BG issuing Bank	_____	_____
b. Is the BG on non-judicial Stamp paper of value Rs. 100/- (Rupees One Hundred only)	_____	_____
c. Is the date of sale of non-judicial stamp paper shown on the BG and the stamp paper is issued not more than six months prior to date of execution of BG	_____	_____
IV. a. Are the factual details such as bid specifications No., LOI No., Contract price etc. correct	_____	_____
b. Whether over-writing/ cutting, if any on the BG authenticated under signature and seal of executant	_____	_____
V. a. Is the amount of BG in line with contract provisions / agreement /tender	_____	_____
b. Is the validity of BG in line with contract provisions / agreement /tender	_____	_____
VI. Covering letter from bank enclosed with the BG	_____	_____
VII. BG shall be from a Nationalised/ Scheduled Bank only	_____	_____

PROFORMA OF THE GUARANTEE
BID BOND/ EARNEST MONEY DEPOSIT
(ON NON-JUDICIAL PAPER OF APPROPRIATE VALUE)

To
 Balmer Lawrie & Co. Ltd.
 Kolkata- 700 001

Whereas (Name of the bidder) (hereinafter called "the Bidder") has submitted its bid for the (purpose) (hereinafter called "the Bid") against Tender reference No. dated M/S. BALMER LAWRIE & CO. LTD., 21 Netaji Subhas Road, Kolkata – 700 001.

The conditions of Tender provide that the Bidder shall pay a sum of Rs..... (Rupees only) (hereinafter called "the said amount") as full Earnest Money Deposit in the forms therein mentioned. The forms of payment of Earnest Money Deposit include guarantee to be executed by a Scheduled Bank.

The said (name and address of the Bidder) have approached us and at their request and in consideration of the premises we, (Name of the Bank) having our office at(address of the Bank) have agreed to give such guarantee as herein after mentioned.

Know All Men by these presents, we,(name of the Bank) of(address of the Bank) having our office, inter alia, at (hereinafter called "the Bank") are bound unto BALMER LAWRIE & CO. LTD.....(address) (hereinafter called "the Purchaser") in the sum of Rs. (Rupees only) for which payment will truly be made to the Purchaser, the Bank binds itself, its successors and assigns by these presents this day of 2019.

THE CONDITIONS of this obligation are :

1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the bid form; or
2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser during the period of bid validity;
 - a) fails or refuses to execute the Contract Form if required; or
 - b) fails or refuses to furnish the Performance Security, in accordance with the instructions to Bidders.

Contd....2/-

[2]

We undertake to pay the Purchaser up to the said amount upon receipt of its first written demand, without the Purchaser having to substantiate their demand, provided that in their demand the Purchaser shall mention that the amount claimed by them is due owing to the occurrence of one or both of the two conditions.

This guarantee will remain in force upto (date of expiry) including the days after the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

Notwithstanding anything contained herein :

- i) Our liability under the Bank Guarantee shall not exceed Rs. (Rupees only)
- ii) This Bank Guarantee shall be valid upto
- iii) We are liable to pay the guaranteed amount or pay part thereof under this Bank Guarantee only if you serve upon us a written claim or demand on or before (last date of validity)

We, (name of the Bank) undertake not to revoke this guarantee during its currency except with your previous consent in writing.

We have power to issue this guarantee in your favour under our Memorandum and Articles of Association and the undersigned has full power to do and execute this Guarantee under the Power of Attorney dated day of 2019 granted to him by the Bank.

Your faithfully,

(Specimen Signature)

BANK GUARANTEE
(PERFORMANCE)
(ON NON-JUDICIAL PAPER OF APPROPRIATE VALUE)

Letter of Guarantee No.

Dated : the day of

THE GUARANTEE is executed at Kolkata on the _____ day of _____by _____(set out full name and address of the Bank) (hereinafter referred to as “the Bank” which expression shall unless expressly executed or repugnant to the context or meaning thereof mean and include its successors and assigns).

WHEREAS Balmer Lawrie & Co. Ltd. (local address), an existing company within the meaning of the Companies Act, 1956 and having its Registered Office at 21, Netaji Subhas Road, Kolkata – 700 001 (hereinafter referred to as “the Company”) issued a Tender being No. dated (hereinafter referred to as “the said Tender”) for (set out purpose of the job) and pursuant thereto Messrs/ Mr.(set out full name and address of the Contractor) (hereinafter referred to as “the Contractor” which term or expression wherever the context so requires shall mean and include the partner or partners of the Contractor for the time being/his/its heirs, executors, administrators, successors and assigns) (delete which are not applicable) has accepted the said Tender and field its quotation.

AND WHEREAS the quotation of the Contractor had been accepted by the Company and in pursuance thereof an Order being No..... dated (hereinafter referred to as "the said Order") has been placed by the Company on the Contractor for (set out purpose of the job).

AND WHEREAS under the terms of the said Order the Contractor is required to furnish the Company at their/his/its own costs and expenses a Bank Guarantee for Rs.....(Rupees only) as performance guarantee for the fulfilment of the terms and conditions of the said Tender and to do execute and perform the obligations of the Contractor under the Agreement dated the day of (hereinafter referred to as “the Agreement”) entered into by and between the Company of the one part and the Contractor of the other part, the terms of the said Tender and the terms contained in the said Order which expression shall include all amendments and/or modifications/or variation thereto.

AND WHEREAS the Contractor had agreed to provide to the Company a Bank Guarantee as security for the due performance of their/his/its obligations truly and faithfully as hereinbefore mentioned.

Contd....2/-

[2]

NOW THIS GUARANTEE WITNESSETH as follows :

1. In consideration of the aforesaid premises at the request of the Contractor, we (set out the full name of the Bank) the Bankers of the Contractor shall perform fully and faithfully their/his/its contractual obligations under the Agreement dated the day of entered into by and between the Company of the one part and the Contractor of the other part, the terms and conditions of the said Tender and the said Order.
2. We, (set out full name of the Bank) do hereby undertake to pay to the Company without any deduction whatsoever a sum not exceeding Rs..... (Rupees only) without any protest, demur or proof or condition on receipt of a written demand from the Company stating that the amount claimed is due by way of loss and damage caused to or would be caused to or suffered by the Company due to bad workmanship or by reason of breach of any of the terms and conditions of the Agreement, the said Tender and the said Order hereinbefore mentioned.
3. The Guarantee is issued as security against due performance of the obligations of the Contractor or under the Agreement aforesaid and the said Tender and the said Order hereinbefore mentioned and subject to the conditions that our liabilities under this Guarantee is limited to a maximum sum of Rs..... (Rupees only) or the amount of loss or damage suffered or to be suffered by the Company in its opinion at any period of time, whichever is lower.
4. We, (set out full name of the Bank) further agree that the undertaking herein contained shall remain in full force for a period of months from the date of the satisfactory execution of the Contract.
5. This Guarantee shall not be affected by any amendment or change in the Agreement or change in the constitution of the Bank and/or the Company and/or the Contractor.
6. We (set out full name of the Bank) undertake not to revoke this Agreement during its currency except with the previous consent of the Company in writing.
7. All claim under this Guarantee must be presented to us within the time stipulated after which date the Company's claim/right under this Guarantee shall be forfeited and we,(set out full name of the Bank) shall be released and discharged from all liabilities hereunder.

Contd....3/-

[3]

8. This instrument shall be returned upon its expiry or settlement of claim(s) if any, thereunder.
9. Notwithstanding anything contained hereinbefore our total liabilities under this Guarantee shall not exceed a sum of Rs..... (Rupees only) and unless a demand or claim in writing under this Guarantee reaches us on or before the date of (last date of claim) and if no claim is received by us by that date all rights and claims of the Company under this Guarantee shall be forfeited and we,(set out full name of the Bank) shall be released and discharged of all our liabilities under this Guarantee thereafter.
10. We have power to issue this guarantee in your favour under our Memorandum and Articles of Association and the undersigned has full power to execute this Guarantee under Power of Attorney dated the day of granted to him by the Bank.

Place :

Date :

**PROFORMA OF THE GUARANTEE
(SECURITY DEPOSIT)**

Balmer Lawrie & Co. Ltd.
Kolkata- 700 001

Dear Sir,

That Messrs/Mr.(set out full name and address and constitution of the Contractor) (hereinafter referred to as "the Contractor") filed their/his/its quotation against your Tender being Tender No. dated (hereinafter referred as "the said Tender") for the work (set out the purpose of the job) and in pursuance thereto an Order being No. dated (hereinafter to as "the Order") was issued by you to the Contractor.

The conditions of the said Tender, inter alia, requires that the Contractor shall pay a sum of Rs..... only) as full security deposit (hereinafter referred to as "the security deposit") in the form therein mentioned. The form of payment of security deposit includes a guarantee to be executed by a Scheduled Bank.

The said Messrs/Mr. (set out full name of the Contractor) have/has approached us and at their/his/its request and in consideration of the premises We (set out full name of the Bank) having our office, inter alia at (state the address of the Bank) have agreed to give such guarantee in the manner following :

- 3 We, (set out full name of the Bank), hereby undertake with you if default is made by Messrs/Mr. (set out full name of the Contractor) in performing any of the terms and conditions of the Tender and/or in payment of the security deposit or any other or in payment of money payable to you. We, (set out full name of the Bank) shall merely on demand from you without demur or protest shall pay you the said amount of Rs..... (Rupees only) or such portion thereof not exceeding the said sum as you may demand from time to time.
2. We, (set out full name of the Bank), further agree with you that you hereunder to adopt any mode for realisation of your dues from the Contractor and/or to vary any of the Terms and Conditions of your Contract with the said Messrs/Mr. (set out full name of the Contractor), or to extend time of performance by Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by you against Contractor and to forbear or enforce any of the terms and conditions relating to the Contract and we, (set out full name of the Bank) shall not be relieved from our liability by reason of any such variation, or any indulgence to be given by you to the Contractor or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so releasing us.

Contd.....2/-

[2]

3. Your right to recover the said sum of Rs..... (Rupees only) from us in the manner aforesaid will not be affected or suspended by reason of the fact that any dispute or disputes is/are pending before any Officer, tribunal, court or any other authority or authorities.
4. The guarantee herein contained shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the said Messrs/Mr. (set out the full name of the Contractor), but shall in all respect, and for all purposes be binding and operative until payment of all the money due to you in respect of such liabilities is paid,
5. Our liability under this guarantee is restricted to Rs. (Rupees only).
6. Our guarantee shall remain in force and effect until (set out the date of expiry) and unless a claim or demand in writing is made against us under this guarantee before the expiry of six months from the aforesaid date i.e. (set out last date of Claim period), the said Guarantee all your rights under this guarantee shall be forfeited and we, (set out full name of the Bank) shall be relieved and discharged from all liabilities thereunder.
7. We , (set out full name of the Bank) undertake not to revoke this Guarantee during its currency except with your previous consent in writing.
8. We, (set out full name of the Bank) have power to issue this Guarantee in your favour under our Memorandum and Articles of Association and the undersigned has full power to execute/sign this Guarantee under the Power of the Attorney dated the day of Two Thousand and Eighteen granted by the Bank.

Yours faithfully,

Dated : (Place)

.....(Date)

.....

(Signature of Officer on
behalf of)
(Set out name of the Bank)

DETAILS OF EXPERIENCE

Tenderer shall give information of similar Works done during past seven (7) years strictly as per the proforma given below.

Sl.No.	Full particulars of similar work carried out by the contractor	Value of Contract	Completion time as stated in Tender (Months)	Actual Completion time (Months) with date of commencement of work	Year of completion	Name & Postal address of Client with Telex / Telephone No.
1	2	3	4	5	6	7

Certified that the above information is correct.

SIGNATURE OF TENDERER

CONCURRENT COMMITMENTS

Tenderer shall give information about his present commitments as per proforma.

S. No.	Full Postal Address of Client & Name of Officer-in-Charge with Telex/Telephone No	Description of the Work	Value of Contract	Date of commencement of Work	Schedule of completion period (months)	% age completion as on date	Expected date of completion	Remark if any

Certified that the above information is correct.

SIGNATURE OF TENDERER

TECHNICAL SPECIFICATIONS FOR INTERIOR WORKS

CARPENTRY AND JOINERY

1.0 GENERAL:

1.1 General Requirement

This section of the specifications shall be read in conjunction with the drawings and other contract documents and other sections of this specification which shall be deemed complimentary with one another. The contractor shall be responsible for providing all plant, tools, materials and all things necessary for the proper storage of materials, execution, completion and maintenance of the works.

1.2 Delivery and Storage

All timber delivered to the site shall be carefully stored above ground in such a manner as to provide proper drainage, ventilation and protection from the weather and shall be stored in a proper manner according to each material type.

1.3 Definition of carpentry

The definition of carpentry work shall be deemed to include fixing clips, blocking grounds, fittings, sub-frames, rough frames and wood framing members, as per relevant IS Codes.

1.4 Moisture content of timber

Timber shall be well seasoned and clean dried with a moisture content of 12% nominal+2% for teak wood. The contractor should get it tested for moisture content of wood at their own cost as per the direction of the Architects/Engineer in charge and produce the certificate to Indian Oil Corporation Ltd for approval.

1.5 Protection, Delivery & Storage

All timber shall be treated with preservatives before delivery to site.

All joinery and joinery timber shall be wrapped in polythene before and during transport and delivery to site.

While remaining in polythene wrappers the timber shall be protected from extremes of temperature and direct sunlight. Internal joinery and joinery timber shall be kept in its original polythene wrappers before working fixing and installing on site. Polythene wrapping to external joinery and timber shall be removed on delivery to site or as previously specified.

1.6 Timber

Timber shall be of the species stipulated in the schedules of rates. It shall be thoroughly seasoned, free of defects which would affects strength and shall be flat, straight, non-splitting and dressed on all sides. The timber shall be free from decay,

fungal growth, bored heart, pitch pockets or streaks on the exposed edges, splits and cracks. Knots should be avoided. Seasoning of timber shall be approved as per IS: 1141 (specification for code practice for seasoning of timber) and code of practice for preservation of timbers as per IS: 401.

1.7 Timber Fixing

The carpentry timber shall be fixed with nails, spikes, bolts, screws, hangers, stirrups, anchors, ties or any other accessories which are suitable to develop the full strength of the member.

1.8 Fixing

Carpentry timber fixed to solid masonry or concrete shall be secured with expansion bolts or other positive method of mechanical fastening. Carpentry timber where fixed into hollow masonry shall be secured with toggle bolts and steel with bolts, nuts & washers as per instruction of Engineer.

1.9 Fiber plugs

Fixing by means of well-seasoned and preservative treated wooden plugs will be permitted only where it is required.

1.10 Fastening

Power driven fasteners may be used for fastening to steel, concrete and brick masonry as approved by Engineer.

1.0 PROTECTION AND RETARDANTS:

2.1 Organic protection-timber generally.

The contractor shall make his own investigation to guard against local sources of attack and damage and take all necessary precautions for protection.

All timber shall be protected with an organic solvent water repellent wood preservative to give a highly efficient protection against termite, spider, worm, all insect and insect and fungus and attack and shall where exposed, enhance the appearance of the timber, colour of the product shall be such as to bring out the natural colour of the respective timber.

The preservative shall penetrate deeply into the timber, shall protect against blue stain, rot, fungus & termite, spider, work & all insects attack and shall contain a resin which fixes the preserving agent and protects them against leaching and evaporation. The protection shall also be water repellent, weather proof and proof against peel, crack or blister of approved quality. Preservative treatment of timber shall be done as per IS: 401.

2.2 Fire Retardant

Fire retardant treatment of timber shall be applied by vacuum/pressure impregnation or manually and shall comply with the requirement of ISI code of practice and local fire requirements. The fire retardant effect shall be produced by

the generation of water vapour and inert gases and the production of hard crystalline charcoal which acts a heat barrier.

3.0 JOINERY

3.1 Timber veneers

- a) Timber veneers shall be of the timber species shown on drawings. Veneers are to be kept in sequence as it is being out from wood and supplied as such to the site for accurate matching of figuring.
- b) Adhesives for using fixing veneers shall be in accordance with the manufacturer's recommendations and as approved by engineer-in-charge.
- c) If adhesives other than contract type are required then bonding shall be in presses.
- d) The veneer shall be finished as specified and shall be equal or superior quality to the laid down in IS: 1659-1960 or as approved.
- e) The contractor shall submit a one square meter sample of each finished veneer type for approval. The size of such sample shall be one square meter unless otherwise specified.
- f) Adhesive used for bonding BWP grade of plywood Boards shall be BWP type synthetic resins conforming IS: 848 respectively.

3.2 Plywood

- a) Plywood shall be a product of a balanced construction made of piles assembled by gluing, the chief characteristics being the crossing of alternate piles improve the strength properties and minimize movement the plan of board.
- b) Plywood shall be of best quality close grained plywood suitable for veneering, painting or bonding plastic laminate. It shall be a resin bonded, water proof band. Exposed edges shall be finished with an edge strip of solid teak wood tongued and grooves & glued or as detailed.
- c) The manufacturer and reference for plywood suitable shall be subject to approval. The thickness shall be in accordance with the drawings.
- d) Plywood shall be of BWP grade or BWP type synthetic resin conforming IS: 848.

3.3 Particle board

- a) Wood band particle board shall be a board made from wood particles bonded with a synthetic resin and/or other organic bonder. Thickness shall vary as shown on drawings. Particle board shall comply with IS 12823.
- b) Interior grade particle board shall be used externally or internally with damp surroundings.
- c) Manufacturer and reference for particle board shall be subject to approval.
- d) Adhesive used for bonding shall be conforming IS: 848.

3.4 Block board / Laminate board (solid)

- a) Block boards have a solid core made up of uniform strips of wood each not exceeding 25mm in length, laid separately, or spot glued, or otherwise joined to form a slab which is glued. Between two or more outer veneers. In any one block Board, the core strips shall be of one species of timber only. Face veneers may be decorative or commercial on both faces or decorative on one face only and or

commercial on the other. Block Boards shall be grade I (Exterior grade) as per IS: 1659.

- b) Manufacturer and reference of block board/shall be subject to approval.
- c) Adhesive used for bonding shall be conforming IS: 848.

3.5 Storage of sheet materials

Sheet materials shall be transported and stored flat, with sufficient support of prevent bowing and wrapping and to prevent damage to edges and corners. Sheet materials shall be protected from weather and kept off the ground and in dry, well ventilated condition.

3.6 Sample

The contractor shall submit sample of all materials including large samples of veneer assemblies for approval. All materials pre-fabricated, delivered and assembled shall be in accordance with the approved sample as per instruction of Engineer.

3.7 Shop Drawings-Cabinet joinery

The contractor shall submit for approval shop drawings for all cabinet joinery. Shop drawing shall relate to site measurement and show in detail the construction of the various parts of the work, the method of jointing, the thickness and type of material, the finishes to be applied to the various exposed surfaces, details of anchoring, joints, welds, fastening and all other relevant information.

4.0 JOINERY - GENERAL:

4.1 General

Joinery shall be carried out strictly in accordance with the drawings where joints are not specifically indicated recognized forms of joints shall be used.

Where no dimensions are specified or shown on drawings, the contractor shall space fixing battens, fillets, ground studs and the like, in accordance with the recommendation of the manufacturer.

5.0 TIMBER VENEERED AND LAMINATED PLASTIC PANEL:

5.1 General

Reference should be made to section of this specification which relate to timber and plastic laminate veneer.

- a) The panels shall be factory made and shall be selected timber veneer or plastic laminate veneer glued to water proof plywood (as per IS Code) the edge of which shall be finished with hardwood lipping. The size and finishes of the panels shall be in accordance with the drawing and schedules instruction of Engineer.

5.2 Fire Rating

Panels shall be rendered fire retardant and to confirm to local fire regulations of concerned Authorities.

5.3 Protection and Storage

- a) Panels shall be delivered to site in perfect condition and in their original protective coverings.
- b) Panels shall be stored flat and stacked evenly in such a manner as to allow air to circulate around them freely and shall be protected from damp, direct sunlight and all other damage.

5.4 Installation

- a) Panels shall not be installed until all plastering work is dry.
- b) Panels shall be installed according to the drawing & schedules and to the manufacturer's recommendations.
- c) Panels are to be securely fixed to wall with screws on painted mild steel Z clips at 600 mm centers horizontally and 1200 mm centers vertically and shall be installed true and plumb on hardwood packing pieces as necessary.
- d) Panel edges cut on site shall be scaled and made good with a veneer edging strip to match the factory finish.
- e) On completion of installation the panels shall be left to perfect condition and properly protected against damage, damp excessive heat, dirt and direct sunlight.

5.5 Samples

The contractor shall submit a sample of each type of veneer/laminate panel for approval before general fabrication is put in hand.

- 6.0** Great care must be exercised in cutting the RCC slabs/beams to located suitable reinforcement for welding the MS flats to be provided for suspension of false ceiling system. The damage to the RCC member shall be made good with cement mortar 1:3(1cement:3coarse sand). The projecting portion of the MS flat below the RCC member and any other steel member in the false ceiling system shall be painted with one coat of red oxide paint.

7.0 ALUMINIUM GLAZED PARTITION / DOORS / WINDOWS:**7.1 General specification, materials & erection.**

Anodised tubular aluminium sections for doors, windows partition frames shall be of INDAL/JINDAL or approved equivalent make and shall be of size and design as per relevant drawings.

All moving and fixing frames shall be manufactured from Aluminium alloy conforming to IS IIE 9 WP.

The alternate vertical frames shall be taken up beyond false ceiling upto main RCC ceiling/beam and shall take up beyond false ceiling upto main RCC ceiling/beam and shall be properly screwed with main RCC ceiling/beam by way of raw/plugs/flats/deats etc completed.

The door shutter section shall be 5.5 mm thick plain glass fixed with necessary gasket and snap fit aluminium beading strip. The glazing for shutters shall be 5.5 mm thick laminated safety glass or as specified.

The door shall be provided with one security 6 lever lock. The shutters shall be provided with anodized aluminium butterfly door handles inside and outside.

The average thickness of anodized coating shall not be less than 15 microns (IS:1968) or as specified. The glazed partition frames shall be provided with approved anchors @ 90 cm c/c maximum for fixing. The bottom rail shall be fixed by way of bolts/screws to the false flooring.

7.2 Payment

Payment including cost of labour, materials, taxes, carriages etc. shall be made on square meter basis of finished work. Fixed glazed partition shall be measured deducting the shutter within it and upto false ceiling only. Nothing extra shall be paid for taking vertical frame members upto main ceiling/RCC slab or beam. Door shutter shall be paid extra on square meter basis. Only clear opening or area for open able shutter left within the glazed partition shall be measured for payment.

STANDARD TECHNICAL SPECIFICATIONS FOR PAINTING JOB

1.0 PAINTING

1.1 Materials

Paint, oils varnishes etc of approved brand and manufacturer shall be used synthetic enamel paint as received from the manufacturer without any admixture shall be used. (Conforming to IS: 2932)

Approved paints, oil or varnishes shall be brought to the site of work by the contractor in their original containers in sealed condition. The empty tins shall not be removed from the site of work till the relevant item of work has been completed and obtained from the Engineer-in-charge.

1.2 Commencing Work

Painting shall not be started until the Engineer-in-charge has inspected the items of work to be painted, satisfied himself about their proper quality can give his approval to commence the painting work.

1.3 Preparation Of Surface

The surface shall be thoroughly cleaned and dusted. All rust, dirt scales, smoke and grease shall be thoroughly removed before painting is started. The prepared surface shall have received the approval of the Engineer-in-charge after inspection.

1.4 Application

Before pouring into smaller containers for use, the paint shall be continuously stirred in the small containers so that its consistency is kept uniform.

The painting shall be laid on evenly and smoothly by means of crossing and laying off, the later in the direction of the grain of wood. The crossing and lying off consists of covering the area over with paint, brushing the surface hard for the first time over and then brushing alternately in opposite direction, two or three times and then finally brushing alternately in opposite direction, two or three times and then finally brushing lightly in a direction at right angles to the same. In this process no brush marks shall be left after laying off is finished. The full process of crossing and laying off will constitute one coat.

Where so stipulated, the painting shall be done with spray, spray machine used may be high pressure type of or a low pressure type, depending on the nature and location of work to be carried out. Skilled and experienced workmen shall be employed for this class of work. Paint used shall be brought to the requisite consistency by adding a suitable thinner as recommended by the paint manufacturers.

Spraying shall be done only when dry condition prevails.

Each coat shall be allowed to dry out thoroughly and rubbed smooth before the next coat is applied.

Each coat except the last coat, shall be lightly rubbed down with sand paper or fine pumice stone and cleaned off dust before the next coat is laid.

No left over paint shall be put back into the stock tins.

No hair marks from the brush or eiegging of paint particle in the concern of panels, angles of molding etc shall be left on the work.

In painting steel work, special care shall be taken while painting over bolts, nuts, rivets, overlaps etc.

The additional specification for primer and other coats of paints shall be as according to the detailed specifications under the respective headings.

1.5 Brush And Containers

After work, the brushes shall be completely cleaned from paint and linseed oil by rising with turpentine. The containers, when not is use, shall be kept closed.

1.6 Measurement

The units of measurement for painting except where otherwise stated shall be given in "Sq meter" painting of rain water, soil, waste, vent pipes, etc shall also be measured in "Sq meter".

1.7 Precautions

All furniture, fixtures, glazing, floors etc shall be protected by covering and stains, smear, splashing if any shall be removed and damage done shall made good by the contractor at his cost.

1.8 Rate

Rate shall include cost of all labour and materials, taxes, carrying, cleaning of surface after painting involved in all the operation described above and in the particular specifications given under the several items. It shall also include cost of scaffolding.

2.0 PAINTING PRIMING COAT ON WOOD, IRON SURFACE**2.1 Materials**

The priming coat for woodwork or iron work shall be as specified in the description of the item. It shall be ready made primer of approved brand and manufacture. IT shall be brought to site in their original packings in sealed condition.

2.2 Preparation Of Surface**2.2.1 Wood work**

The woodwork to be painted shall be dry and free from moisture.

The surface shall be thoroughly cleaned. All unevenness shall be rubbed down smooth with sand paper and shall be well dusted. Knots, if any, shall cover with preparation of red lead made by grinding red lead in water and mixing with strong glue size and used hot.

The surface treated for knotted shall be dry before painting is applied. After the priming coat is applied, the holes and identifications on the surface shall be stopped with glazier's putty or wood putty. Stopping shall be done before the priming coat is applied.

2.2.2 Iron and steel work

All rust and seals shall be removed by scrapping or by brushing with steel wire brushes. Hard skin or oxide formed on the surface of wrought iron during rolling which becomes loose by rusting, shall be removed.

All dust and dirt shall be thoroughly wiped away from the surface. If the surface is wet, it shall be dried before priming coat is undertaken.

2.2.3 Application

The paint shall be applied with brushes, worked well into the surface and spread even and smooth. The painting shall be done by crossing and laying off described.

3.0 PAINTING WITH SUPERIOR QUALITY SYNTHETIC ENAMEL PAINT

3.1 MATERIAL

a) Wood Work

The superior synthetic enamel paint of the following brand and manufacture shall only be used.

Luxol High gloss Synthetic Enamel" of Berger Paints.

Apcolite" of Asian Paints (India) Limited.

3.2 PREPARATION OF SURFACE

a) Wood Work

The surface shall be cleaned and all unevenness removed as in para 2.2.1. Knots if visible, shall be covered with a preparation of red lead as in para 3.2.1. Holes and indentation on the surface shall be filled in and surface prepared as in 2.2.1.

b) Iron and Steel work

The priming coats shall have dried up completely before painting is started. Dust and scaling shall be carefully removed by scrapping or by brushing with steel wire thoroughly wiped.

3.3 APPLICATION

The number of coats shall be as stipulated in the item. One coat of the specified paint shall be applied and allow to dry overnight. It shall be rubbed next day with the finest grade of wet adhesive paper to ensure a loose particles dusted off.

Next coats shall be applied after the first coat is thoroughly dry. Additional coats shall be applied if found necessary to ensure properly uniform glossy surface, free from streaks, blistered etc in all the cases paint manufacturer's instruction shall be followed meticulously.

4.0 PAINTING WITH WALL PAINT

4.1 The wall paint shall be of following brand and manufacturer:

- a) "LUXOL" Silk Acrylic Emulsion paints of Berger paints or approved equivalent. The paint shall be of approved shade.

4.2 "Preparation of Surfaces"

The surface shall be thoroughly cleaned of dust, old white or colour wash or other wall finish by washing with water and scrubbing such removal of white wash, colour washing etc will be paid for separately. The surface shall then be sand papered to give a smooth and even surface.

Scratches, holes etc shall be made good by applying putty, made of plaster of paris mixed with water on the surface and then sand papering the same after it is dry.

The wall surface which will be painted with wall paint shall be made smooth by applying a putty made of plaster of paris mixed with water on the entire surface including filling up the undulations and then sand papering the same after it is dry such application of plaster of paris will not be paid separately.

4.3 Material

Cement primer of approved brand and manufacture shall be used.

4.4 Application

On properly prepared and primer surface, wall paint shall be applied in the usual manner with brush or roller.

The number of coat shall be as stipulated in the item.

When painting inside a wall ventilated room, the second coat can be applied one hour after the first.

The thinning of paint is to be done with water. The quantity of thinner to be added for first and second coat shall be as per manufacturer's instructions.

The surface on finishing shall present a flat velvety smooth finish and uniform appearance. If necessary more coats will be applied till the surface present, uniform appearance. In all cases the manufacturer's instructions shall be followed meticulously.

4.5 Other details these shall be as per specification for painting (general) as for they are applicable.

5.0 French Spirit Polishing.

5.1 Pure shellac varying from pale orange to lemon yellow colour, free from resin or dire shall be dissolved in methylated spirit. Suitable pigment shall be added to get the required shade.

5.2 The surface shall be cleaned. All unevenness shall be rubbed down smooth with sand paper well dusted. Knots of visible shall be covered with a preparation of red lead and glue size laid on while hot. Holes and indentations on the surface shall be stopped with glazier's putty. The surface shall then be given coat of wood filler made by mixing whiting in methylated spirit at the rate of 1:5 kg of whiting per liter of spirit. The surface shall again be rubbed down perfectly smooth with glass paper and wiped clean.

5.3 The number of coats of polish to be applied shall be as descried in the item a pad of woolen cloth covered by a fine cloth shall be used to apply the polish. The pad shall be moistened with the polish and rubbed hard on the wood, in a series of overlapping circles applying the mixture sparingly but uniformly over the entire area to give an level surface. A trace of linseed oil on the face of the pad facilities this

operation. The surface shall be allowed to dry and the remaining coats applied in the same way. To finish off, the pad shall be covered with a fresh piece of clean fine cloth, slightly and quickly with methylated spirit and rubbed lightly and quickly with circular motions. The finished surface shall have a uniform texture of high gloss.

- 5.4 Other details shall be as per the specification for painting (general) as far as they are practicable.

6.0 VITRIFIED FLOOR TILES

- 6.1 Work included The tenderer shall furnish materials, labour. Plant, equipment and tools to complete the work as specified and or as shown in the drawing.

6.2 Materials

- a) Vitrified tiles shall be flat and unglazed on the top surface. They shall be generally 600 X 600 mm in size with a thickness as approved by the Engineer. They shall conform to IS: 15622 of approved make and colour. The tenderer shall submit to the Engineer for his approval samples of tiles which he proposes to use in the work and all tiles used shall be similar to the approved samples. Water absorption's less than 0.08% of above quality of tiles.
- b) Ordinary or White Portland Cement:
 - 1) Cement: Ordinary Portland Cement shall conform to IS: 8112
 - 2) White Portland Cement: White Portland Cement shall conform to IS: 8042
 - 3) Sand: The sand used shall be of approved river or pit sand, conforming to IS: 383-1970
 - 4) Water: Water used shall be clean and potable quality as per clause 4.3 of IS: 456-2000

6.3 Workmanship

Tiles shall be laid on 20 mm thick cement mortar 1 : 4 (1 Cement : 4 Coarse sand) including grouting the points with white cement and matching pigments as approved by Engineer. The fixing shall be done from bottom upwards. Each tile shall be fixed as close as possible to the one adjoining and any thickness of the tiles shall be evened out in the cushioning mortar so that all the tiles faces are set in conformity with one another. After finishing above job surface shall be cleaned and cured.

SCHEDULE OF APPROVED MAKE

All material specified in this tender document must confirm to the brand name and be of the first quality. Samples of all materials to be used must be submitted and got approved from the Engineer-in-Charge before procurement and use.

INTERIOR & FURNISHING WORK:

SL NO.	MATERIAL	BRAND NAME
1	Cement	ACC. Ultratech. Lafarge or approved equivalent
2	Flush Doors	Greenply, Century, Duro or approved equivalent
3	Locks, Drawer channel & Handle	Godrej, Hettich
4	Floor spring	Ozone, Dorma, Garnish, Godrej
7	White Cement	Birla White, JK
5	Glass	Pilkington, Saint Gobain, Modiguard
6	Acrylic Emulsion Paint	ICI , Asian paint , Berger
7	Cement primer	Berger, ICI
8	Enamel Paint	ICI, Berger, Asian paint
9	Ceramic Tiles	Kajaria, Somani, Johnson, Nitco & Euro
10	Waterproofing Compound, tile fixing adhesive & Acrylic Grout	Sika, Laticrete, Pidilite
11	Vitrified Floor Tiles	Nitco, Naveen, Asian, Euro, Jhonson
12	Laminated wooden flooring	Square Foot, Pergo
13	BWR Plywood	Greenply, Century, Duro
14	Laminate	Greenlam, Century mica, Marino, Formica, Sunmica
15	Wooden Veneer	Greenply, Century, Duro
16	Gypsum False Ceiling	India Gypsum
17	Mineral Fibre Ceiling	Armstrong
18	Melamine polish	Berger, Asian Paint, Pidilite
19	Factory made Furniture	Atlas System, Design Era, Fortune Furnitech or approved equivalent
20	Door closure	Everite, Doorking
21	Vertical Blind	Vista levolor, Mac, Luxaflex
22	Sanitary ware	Hindware, Parryware
23	C.P brass bathroom fittings	Jaguar, Marc
24	G.I. Pipes	Tata, Jindal
25	P.V.C Pipe	Supreme, Oriplast
26	Sofa set	Godrej, Featherlite, HNI, Methodex or approved equivalent
27	Chair	Godrej, Featherlite, HNI, Methodex or approved equivalent

TECHNICAL SPECIFICATION FOR ELECTRICAL SYSTEM

1.00 ILLUMINATION SYSTEM

1.1.0 Design Basis

The Lighting Panels (LP) for distribution of illumination power shall receive power from the MLDB at 415V. It shall be sheet steel enclosed, dust and vermin proof. Lighting Panels for individual areas shall be wall-mounting type. For hazardous areas flameproof type panels shall be used. Adequate nos. of spare feeders shall be provided in Lighting Panels.

Lighting fixtures either can be controlled in a group, directly from the lighting panels or from local switches provided for individual fixture, fan, socket etc.

Outdoor lighting viz., yard lighting, street lighting shall be automatically controlled through photocells and suitable no. of photocells shall be provided in strategic locations for this purpose, if the same is shown in the drawing or, appeared in the Bill of Materials.

The lighting system inside and outside plant units shall be designed taking into consideration the desired illumination level, architectural arrangement, building dimensions including mounting height, environmental considerations, ease of maintenance and reliability of the lighting distribution network.

The fittings shall be selected to suit the specific environmental requirement. In areas having inflammable vapour, the fittings shall be of vapour-proof design. In hazardous locations, the fittings shall be of flameproof or increased safety design, tested and approved by CMRS.

Outdoor Lighting Fittings

All outdoor flood light / road lighting fittings shall be mounted on steel tubular poles / self-supporting steel towers / building wall with single or double outreach brackets. The fittings shall be cut-off/semi cut-off distribution and integral type.

Lighting Power Supply And Distribution

Power shall be fed to MLDB which in turn fed power to LPs. Each outgoing feeder of lighting panel will feed to lighting fixture/lighting switchboard. Each LP shall have 12 / 6 nos. 240 volt 16A SP MCB as outgoing feeders and one no. 63A / 32A TPN RCCB with inbuilt thermal trip release as incomer. Each circuit taken from LP shall control a group of fittings with the loads distributed on all the three phases to the extent possible.

Wiring shall be done with armoured cable in shed area.

Cable sizes for lighting circuits shall be as indicated in drawings / Bill Of Materials.

The lighting installation shall be carried out in accordance with IS: 732 Codes of practice for electrical wiring installations and National Electrical Code as applicable.

All supporting steel fabrication, fittings, and cabling shall be painted in accordance with approved standard.

The Bidder shall carefully consider these lighting levels and layouts in the offer and shall clearly indicate if any change is required to achieve the design lighting levels with the equipment offered.

2.0.0 General Requirements - Supply

The lighting installation shall be carried out in accordance with relevant standard for electrical wiring installations and National Electrical Code as applicable.

2.1.0 Lighting Panel (LP)

The Lighting Panels (LP) with MCB shall be suitable for 415/240 Volt, 3 phase & neutral system. Each outgoing feeder of lighting panel (LP) will feed fixtures/ Local Switchboards, Receptacles with the loads equally distributed on all the three phases to the extent possible.

LPs shall have 12 / 6 nos. 240 volt 16A SP MCB as outgoing feeders and one no. 63A / 32A TPN RCCB with inbuilt thermal trip release as incomer and adequately rated copper busbar. The MCBs shall be suitable for snap fitting on mounting channel by suitable spring loaded clamping arrangement.

The LPs shall be as per IS 8623. Suitable for Flush mounting and surface mounting. With 100A copper busbar for each phase. With Neutral busbar, earth bar and cable ties for cable management. Fully insulated busbar and neutral bar. Door earthing. Supplied with wire set.

MCBs shall be of high breaking capacity (9 KA) and suitable for control & protection of lighting feeders.

Make of Lighting Panel (LP) shall be Legrand: Ekinox TPN DB 6077 xx IP-43 - IK 09 with metal door or, approved equivalent from Standard or, Havells or, Schneider.

2.2.0 Power Distribution Board (PDB)

Supply, installation, testing and commissioning of 415 V LT non-compartmentalised, fixed type, vertical, front opening, surface mounting, double door, IP-43 with metal door, door earthing, wall mounted, top and bottom cable entry Power Distribution Board

Incomer shall be of 415V, 4P MCB with inbuilt thermal magnetic trip release. Bus Bar rating shall be 415V, 3 ph, 4w, Cu busbar, fully insulated

Outgoing MCBs shall be three phase TP 32A, 10KA MCBs

Make of Power Distribution Board (PDB) shall be Legrand - Ekinox TPN DB - VTPN DB - Cat No. 6077 xx-IK or, approved equivalent from Standard or, Havells or, Schneider.

2.3.0 Receptacles

Receptacle shall be of type RB, RC and RD.

RB type receptacle shall be 240V, 6/16A, 1ph, 5pin with 16A piano switch.

RC type receptacle shall be 240V, 25A, 1ph, 5pin industrial type with 20A SPMCB for Air Conditioning units of MK /Anchor /North West / Havells / Equivalent make

RD type receptacle shall be 415V, 3ph, industrial shrouded type for welding purpose.

Receptacle shall be mounted in a sheet steel enclosure of thickness not less than 16 SWG. RB, RC type receptacle shall be suitable for indoor installation where as RD type receptacle shall be suitable for indoor as well as outdoor installation. Besides these receptacle shall be flame proof for hazardous area confirming relevant IS.

2.4.0 Lighting Fixtures

The lighting fixtures shall be complete with lamp and accessories like control gears, ballasts, starter, capacitor, terminal block etc.

The accessories shall be mounted as far as possible in the fitting assembly. In case of accommodation problem a separate metal enclosed box shall be provided for housing the accessories with provision for loop-in and loop-out connection of wires.

Each fixture shall be provided with an earthing terminal. All metal or metal enclosed parts or the housing shall be connected to the earthing terminal so as to ensure satisfactory earthing continuity throughout the fixture.

Each fixture shall be provided with an earthing terminal suitable for connection with 1/C 2.5 sq mm PVC insulated copper 1100 V wire.

2.5.0 LED Lighting Fixtures

LED Light Fitting shall have cluster of LEDs of proper rating; high power & high efficiency LED chips with Lumen output >120 lumens per W; Protection Class IP65; Make of LED : NICHIA / CREE / SEOUL SEMICONDUCTOR; Colour Temperature : W : 6000-6500 K; Driver included; with properly designed Heat Management System by using MCPCB for faster heat transfer from LEDs; high efficiency 3 stage Driver with efficiency of more than 75% and power factor should be minimum 0.95 (APFC)

2.6.0 Lamps

General Lighting Service (GLS) lamps shall be with clear glass and screwed caps.

All fluorescent lamp shall be bi-pin rotary type and either cool daylight or white.

Lamp shall be suitable for use in position and capable of withstanding small vibrations. Restrictions and special features, if any, shall be clearly indicated in the bid.

LED Lights

Lamp shall be suitable for use in position and capable of withstanding small vibrations. Restrictions and special features, if any, shall be clearly indicated in the bid.

2.7.0 Ballast

Ballast shall be heavy duty, low loss, polyester-filled type with copper winding.

Ballast for Mercury/Sodium vapour lamp shall be provided with suitable tapping to set the voltage within the range specified.

Ballast shall be free from hum. The Contractor shall replace ballast, which produces humming sound, free of cost.

In multilamp fixture each lamp shall be provided with individual Ballast.

2.8.0 Lighting Cables/Wires

Lighting wires shall be 650 V grade, PVC insulated, stranded, copper conductor, single core wire conforming to IS 694 with latest amendment with colour coded as below :

RED	for	R-Phase
YELLOW	for	Y-Phase
BLUE	for	B-Phase
BLACK	for	NEUTRAL
GREEN	for	Earthing

All 16/6 A, 5 pin sockets shall be connected directly to Lighting Panel (LP) by 2 runs of PVC insulated, single core stranded 2.5 mm sq. Copper wire for phase and one run of PVC insulated, single core stranded 1.5 mm sq. Copper wire for earthing.

Wiring to individual light/fan points shall be carried out by 3 runs of PVC insulated, single core stranded 1.5 mm sq. Copper wire.

2.9.0 Fans and Regulator

All ceiling fan shall be 1200 mm (48") sweep & 1400 mm sweep, capacitor type, complete with blades, double ball bearings, canopy, minimum 300 mm down-rod, hanging device with electronic regulator etc. and suitable for 1ph., 240V, 50Hz AC supply.

All exhaust fans shall be wall mounted type, axial flow of 300 mm sweep, 900 rpm

suitable for 1ph, 240V, 50Hz, AC supply and complete with fan wheel, motors and complying, protection guards, switches etc.

2.10.0 Switch and Switch Board

All switch boards/boxes shall be of bent steel construction, fabricated of 16 SWG M.S. sheet with 6mm thick Perspex cover.

Switch boards / boxes/ Receptacles located in Buildings shall be flush mounted type on brick wall with only the switch knob projecting outside.

Switch boards/boxes shall have conduit knock outs on the sides. Adequate provision shall be made for ventilation of these boxes.

Flush type receptacles where provided shall be so located that only the plug projects outside.

Switches shall have quick-make and quick-break mechanism operated by a suitable external handle complete with position indicator.

All switches for light, fans and receptacle shall be of 240V, 6A, Piano type similar to Anchor make.

2.11.0 Flood Light Tower

Flood light tower shall be a lattice structure with maintenance platform and approach ladder. All structural members and hardware shall be hot-dip galvanised.

Structures shall be designed for an additional load of 1500 Kg. for maintenance crew. Deflection under maximum wind pressure shall not exceed 1 in 360. Structural design shall be as per IS-800 and subject to Owner's approval.

2.12.0 Post Top Lantern

The fittings shall be weatherproof and made of 3 mm aluminium sheet and finished with stove enameled white inside and epoxy gray outside. The fittings shall be provided with high transparency clear acrylic/glass bowl with a neoprene rubber gasket for protecting against entry of water, insects, etc. The control gear shall be provided on top portion and the bottom of partition shall be used as reflector finished in white stove enamel. The control gear housing shall be provided with ballast, condenser fuse, terminal block and cable gland suitable for terminating 3c x 2.5 sq mm copper cable. The mounting arrangement shall be suitable for direct mounting on poles having OD varying from 65 mm to 85 mm and also provision for holding the pipe inside by means of clamps/brackets. The fitting shall be suitable for 70 Watt HPSV lamps.

2.13.0 Street Lighting Pole

Street lighting pole shall be of overall length of 9M/11M as per requirement. It shall be constructed from MS sheet as per IS:2713 (part - III). The pole shall be hot deep galvanized. All sections shall be factory welded.

The pole shall have one / two / three / four outreach arm (arm length 1.5 mtr) for mounting Street lighting fitting as per Indian Standards bill of materials; provision for foundation (including supply of sand, cement etc.); provision of all hardware for mounting and other associated work; supply & fixing of marshalling box with 16A TPN MCB isolator for loop in and loop out of 4c-16 sq mm al cable; automatic ON/OFF time switch of L&T make for dusk to dawn operation; including wiring of lighting fixture (with 3c-2.5 sq mm cable) from the TPN Isolator located at the bottom of the lighting pole to light fixture; two nos. double compression brass glands for 4/c-16 sq mm al cable and one no. 3/c-2.5 sq mm al cable; bracket etc for mounting the marshalling box; grounding of pole including 1.2 mtr long, 25 mm dia. Cu earth electrode directly driven into the ground; provision of 25 mm dia PVC pipe for cable entry / exit and complete with all accessories as per Indian Standards & technical specification

3.0.0 INSTALLATION-GENERAL

3.1.0 Installation work shall be carried out in accordance with good engineering practices and also manufacturer's instructions/recommendations where the same are available.

Equipment shall be installed in a neat workmanlike manner so that it is level, plumb, square and properly aligned and oriented.

Unless otherwise shown, the mounting heights of lighting fixtures and accessories shall be generally as follows:

- a) Lighting fixtures in general areas of plant buildings etc. :
 - i) Low bay type : 3000 mm to bottom
 - ii) Medium bay type : Between 3500 mm & 8000 mm to bottom
 - iii) High bay type : Above 8000 mm to bottom
- b) Bracket lights over door : 300 mm bottom of fixture above opening
- c) Receptacles : 500 mm floor to centre
- d) Local switches : 1500 mm floor to center
- e) Lighting panels : 1500 mm floor to top

All outdoor lighting fixture, unless it is fed from photo cell/time switch controlled lighting panel, shall be provided with outdoor type local switch.

For cable/wire numbering, PVC sleeve with cable/wire of number of different colour code shall be used.

Flameproof installation shall be carried out with flameproof G.I. conduits and flameproof accessories and junction boxes.

Unless otherwise noted the size of PVC / GI conduits & junction box shall be as below :

a) Conduits

Cable size	Conduit size					Maximum no. of conductors Admissible for conduit
	<u>20mm</u>	<u>25mm</u>	<u>32mm</u>	<u>40mm</u>	<u>50mm</u>	
i) 10 mm ² AL	-	2	5	7	8	
ii) 2.5 / 1.5 mm ² CU	3	5	9	-	-	

b) Junction boxes

Conduit size (MM)	junction box size (mm)				90 ⁰
	4-way	3-way	straight		
i) 20/25	150x150x100	150x100x100	88	88	
ii) 32/40	254x200x127	254x200x127	150x150x100	-	
iii) 50	254x200x127	254x200x127	254x200x127	-	

3.2.0 Lighting Fixture

Continuous rows of fluorescent tubes shall be mounted on a continuous M.S. angle for each row of lights.

In pump houses, fixtures shall be mounted to maintain sufficient clearance from the overhead traveling crane trolley.

In plant area where necessary bracket are required for fixture shall be fabricated at site from 38 mm conduits with a reducing socket to suit the fixtures and clamped on to the handrails. The fixing shall be strong enough to with stand vibration and high wind velocity.

If a roof over the plant area is available, the fixture can be pendant mounted.

Floodlights shall be mounted on steel base. Fixing holes shall be provided with slot to turn the fixture about 5 deg. in both the direction. Bolts shall be finally tightened with spring washer.

The Contractor shall supply and install the steel base for fixing the floodlight on the flood light towers.

Terminal connection of the floodlight shall be made through PVC coated flexible metal conduits.

Fixture shall be mounted on plant structures with suitable clamps. No cutting or drilling on plant structure shall be permitted.

The fixture after erection shall be marked up indelibly with corresponding circuit number for easy identification of lamp circuit.

For wall mounted type fluorescent fixture for internal illumination, the same shall be installed at a height of 2.6 meters (8'-6") from the finished floor level unless mentioned otherwise. For ceiling mounted type, each fixture shall be suspended by two (2) down rods capable of sustaining the weight of fixture & sufficient length for achieving the mounting height mentioned herein above. The down rod shall be painted without involving any extra cost.

3.3.0 Lighting Panels

Lighting Panels shall be erected at locations indicated in drawings / schedule.

Suitable provisions of foundations for boards needs to be provided. The Contractor shall have to fabricate and erect the necessary support brackets of erection of panels wherever required.

Laying and termination of all lighting cable from MLDB, LP are included in the scope of Contractor.

3.4.0 Switchboards for light/fan points

The switchboards shall be installed at height of 1.5 meters above the finished floor level. No switches shall be provided inside the bathroom.

3.5.0 Ceiling fans

Unless otherwise specified all ceiling fans shall be hung not less than 2.73 meters (9') above floor. The suspension rod and clamp shall be painted without involving extra cost.

3.6.0 Exhaust fans

Exhaust fans shall be fitted by means of bolts in the wall. The required size of holes in the wall shall be cut out to the required size and furnished neatly with cement plaster and brought to the original finish of the wall.

3.7.0 Installation of receptacle

Receptacles shall be located on the walls at a height either 450mm or 900 mm from the floor as indicated in the corresponding drawings.

3.8.0 Flood Lighting Tower/High Mast Tower

Flood lighting towers / High Mast Towers shall be erected by the Contractor.

Purchaser will provide foundations for these towers.

Contractor shall also mount assembled fixture, outdoor type Junction-Box with TPN isolator and fuse, distribution board and install necessary cabling and wiring and make connections for the same.

3.9.0 Distribution wiring to individual points

All runs of mains & sub mains, distribution wiring to individual points including the exact positions of light fittings and switch boards shall be first marked on the buildings and shall be approved by the Engineer-in-Charge of the Purchaser before the actual commencement of work.

The 'Point Wiring' shall include, unless otherwise specified, supply and installation of all wires, conduits, wiring; and conduit accessories from the junction boxes to respective light, fan, receptacle (RA) points, including supply and fixing of junction boxes, switch boards, piano-key switches, receptacles (RA), fixing of fan-regulators making all connections, painting, earthing with continuous 1.5 mm² PVC insulated 'CU' wire etc. complete in all respects for the type of wiring specified including breaking the R.C.C./brick work wall/floor and making good the damage to original finish.

'Surface Wiring System' shall be done using casing capping, or through heavy gauge GI or rigid PVC conduit, as specifically mentioned in the corresponding Schedule of Items/single line diagram.

To facilitate drawing of wiring through conduits/ G.I / Steel pipes etc., G.I. fish wire of 14 SWG, wherever needed, shall be provided along with recessed / surface conduit without any extra cost.

3.9.1 Mains and Sub-Mains Wiring

Mains and sub-mains shall consist of wires, cables, conduits, casing capping, bends, junction boxes, bushes, checknuts etc. as specified herein before.

The size and capacities of the conduits, casing capping shall be as stated in the Schedule of Quantities and will commence from main switches to various distribution boards.

Wires shall be drawn in the concealed or surface conduits, casing capping as required without being damaged. For this purpose draw boxes shall be located at convenient places.

Every main and sub-main will run in an independent conduit with an independent earth wire as specified running along the entire run of conduit.

Necessary provision of wire lengths entering and emerging from the conduit / casing capping must be made for connections.

Measurement will be taken of the actual conduit / casing capping run containing the wires from one point to the other.

Rates quoted shall include all materials, connections, labour etc. as specified

3.9.2 PVC Casing capping wiring

PVC Casing & capping shall be rigid PVC built for high impact strength and shall be fire retardant and self-extinguishing. The casing cover shall have a perfect snap fitting with the case trunking and should be such that it will not dislodge or slide or, distort under its own weight or under the weight of wire in the trunking.

The individual casing and capping shall have a standard overall length of not less than 2 M. The accessories of casing and capping, like elbow right angle corners, tees, couplers, external and internal right angle linkers, 4 way covers, junction boxes etc. shall be made of same materials as the casing and capping and shall be equally precision snap fitting. The colour of the casing capping accessories shall be perfectly uniform throughout.

The casing and capping of different widths (eg. 20mm, 25 mm, 40 mm, 50 mm etc.) shall have same depth (both internal and external) to present a perfectly level and flush appearance. Proper jointing materials as recommended by manufacturers shall be used for jointing, ensuring matching of casing and capping as far as possible. Diagonal runs for casing and crossing of casings with other casings shall be avoided.

The casing shall be fixed to the mounting surface using wide flat-headed screws fitted at a spacing of 500 mm (approx.) and so tightened that the head is flush with casing face. The screws should be aligned that the full face of the casing is flush with the mounting surface. The wires shall be run in a proper workmanlike manner ensuring that they are perfectly straight and without tension and free from jumbling and crossing. All casing end shall terminate in the switch/point/receptacle mounting boards. The sizes of the casings shall be selected such that wires to be run therein can be accommodated easily without any pressure or tension whatsoever.

3.9.3 Surface / concealed type Wiring through GI/Rigid PVC Conduit

Surface wiring system through GI/rigid PVC heavy gauge (minimum thickness of conduit wall 3 mm) conduit shall be done with screwed-type coupler. The conduits less than 19 mm dia shall not be used, unless specified. All conduit accessories for supply shall be threaded type. The conduits shall be properly earthed.

In long distance straight runs of conduit, inspection type screwed coupler is to be provided at reasonable intervals. Threads on conduit pipes in all cases shall be between 13 mm to 27 mm long sufficient to accommodate pipes to full threaded portion of couplers or accessories.

In order to minimise condensation and sweating inside the tube, all outlets of pipe

system shall be properly drained and ventilated, but in such a manner as to prevent entry of insects inside the conduit. To protect against rust, the outer surface of the conduit and accessories shall be painted with anti-corrosive preservation.

Conduit shall be fixed by heavy gauge saddles, secured to wall/ceiling by screws driven into wood plugs at an interval of not more than 75 cm apart for vertical run and 60 cm apart for horizontal run, but on either sides of couplers or bend or similar fittings-saddles shall be fixed at a distance of 30 cm from the center of such fittings. The minimum thickness for saddles shall be 24 SWG for conduits upto 25 mm dia and 20 SWG for larger sizes.

Where conduit pipes are to be laid along trusses, steel joints etc. the same shall be secured by means of girder clip. Where it is not possible to drill holes in the truss member, suitable clamps with bolts and nuts shall be used. The width and thickness of girder clips and clamps shall not be less than 19 mm wide and 20 SWG thick for conduits upto 25 mm dia. and 25mm wide and 18 SWG thick for conduits of dia 31 mm & above.

All necessary bends in the system including diversion shall be done by bending the pipes, or by inserting suitable inspection type bends, elbows or similar fittings or by fixing cast iron inspection boxes whichever is most suitable.

All outlets for fittings, switches etc. shall be fixed on boxes of suitable metal for either surface mounting system or flush mounting system. In case of cast iron boxes the wall thickness shall be at least 3 mm and in case of welded mild steel sheet box the wall thickness shall not be less than 18 gauge for boxes up to a size of 20 cm x 30 cm and above this size 16 gauge M.S. box shall be used. Except where otherwise stated 3 mm thick insulated laminated sheets shall be fixed on the front with screws. Where conduits are terminated special care shall be taken in employing double jam nuts, for securely fixing the conduits to outlets and to provide insulated bushes inside conduits at ends so as to prevent any possibility of damage to cables when drawn.

Only single core PVC insulate cables/ wires shall be used for wiring through conduits. The no. of single core cables in one circuit shall be such that it permits easy drawing in of the cables. Under no circumstances no. of cables drawn in one conduit shall be greater than the maximum set out in Table II of IS 732-1963 code of practice (revised) for electrical installation (system voltage not exceeding 650 volts).

All conduits and accessories for distribution wiring shall be provided with earthing attachment by one no. 16 SWG continuous GI wire for loop earthing GI wires shall be run conduits being fixed with saddles.

Where conduits are run on cable trays, they shall be clamped to supporting steel at an interval of 600 mm.

For embedding directly in soil, the conduits shall be coated with an asphalt - base compound. Concrete pier or anchor shall be provided where necessary to support the conduit rigidly and to hold it in place.

Running threads shall be avoided as far as practicable. Where it is unavoidable, check nuts shall be used.

Conduits shall be kept, wherever possible, at least 300 mm away from hot pipes, heating device etc. when it is evident that such proximity may impair the service life of cables.

3.10.0 Cabling

3.10.01 Cable Laying.

- a) Cable shall be installed in ladder type fabricated trays except for plant buildings, In plant buildings, the same will run in rigid/ flexible conduit for protection or, directly clamped on walls. In outdoor areas, cables shall be laid directly below ground with bricks/ RC slab protection.
- b) Cable laid on trays and risers, run through walls shall be neatly dressed and clamped at an interval of 1500 mm and 900 mm for horizontal and vertical cable runs respectively.
- c) Clamps for multicore cables shall be fabricated out of 25 x 3 mm aluminium flats. All power cables shall be clamped individually and control cables shall be clamped in a groups of three or four cables.
- d) Prior to laying of cable inside both indoor and outdoor trenches, the contractor shall properly clean inside those trenches.
- e) In outdoor area, buried cable shall be laid and covered with sand/ riddled earth and protected from damage by bricks at sides and precast slab at top.
- f) When buried cable cross road/ railway track, additional protection shall be provided in the form of hume/ galvanised iron pipes/ RCC box culvert.
- g) Whenever any wall opening/ floor chipping shall be done, contractor shall also be responsible for repairing such opening/ chipping, to the original architectural finish of the building.

3.10.02 Cable Tag and Markers

- a) Each cable and conduit run shall be tagged with numbers that appear in the cable conduit schedules. Cables and conduit shall be tagged at their entrance, every 30 M and exit from any equipment, junction box.
- b) The tag shall be of aluminium with the number punched on it and securely

attached to the cable by not less than two runs of 16 SWG GI Wire.

- c) The location of cable joint if any shall be clearly indicated with cable marker with an additional inscription 'cable joint'.
- d) The contractor shall furnish and install all tags and markers as stated above.
- e) For buried cable, the marker shall project 150 mm above ground and shall be spaced at an interval of 30 Metre and at every change of direction.

3.10.03 Cable Termination and Connection.

- a) The termination and connection of cables shall be done strictly in accordance with manufacturer's instruction, approved drawings and/ or as directed by the Engineer.
- b) The work shall include all clamping, fitting, fixing, soldering, tapping, compound filling, cable jointing, crimping and earthing as required for the complete job. All equipment required for all such operations shall be furnished by the contractor.
- c) Furnishing of all material such as soldering material, electrical tape, sealing material as well as cable jointing kit shall be included in the offer.
- d) Cable joint kit for all cables shall be supplied by Contractor under this specification. Responsibility for proper termination shall lie on the Contractor. Guarantee for termination shall also have to be given by the Contractor.
- e) The equipment shall generally be supplied with undrilled gland plates for cable/ conduit entry and cable end box for power cable.
- f) The Contractor shall perform all drilling, cutting on the blank plate and any minor modification work required to complete the job.
- g) If the cable end box or the terminal enclosure provided on the equipment is found unsuitable and requires major modification, the same shall be carried out by the contractor at the discretion of the Engineer.
- h) Control cable core entering the control panel/ distribution board etc. shall be neatly bunched and served with PVC perforated type trays to keep it in position at the terminal block.
- i) The Contractor shall put ferrules on all control cables' cores in all junction boxes and all terminations. The ferrule shall carry terminal numbers as per drawings. All ferrule shall be coloured, plastic and interlocked
- j) Spare cores shall be similarly ferruled, crimped with lug and taped on the ends. Spare cores shall be ferruled with individual cable number.

- k) Termination and connection shall be carried out in such a manner as to avoid strain on the terminals.
- l) All cable entry points shall be properly sealed and made vermin and dust proof. Unusual opening, if any shall be effectively closed. Sealing work shall be carried out with approved sealing compound having fire withstanding capability for at least three hours.

3.11.0 COMPLETION DRAWINGS

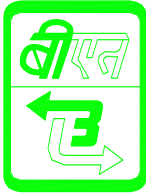
After the completion of the work and before issuance of virtual completion, the Contractor shall submit to the Owner completion drawings in the form of three complete set of originals on sepia cloth in ink with two sets of blue prints of layout drawings drawn at approved scale indicating the complete system as installed along with two sets of Compact Disc (CD). These drawings shall give the following :-

- 3.11.1 Run and size of conduits, location of inspection, Junction and pull boxes.
- 3.11.2 Location and rating of sockets and switches for the light and power outlets.
- 3.11.3 Location and details of distribution boards, main switches, switchgears and other particulars.
- 3.11.4 Complete schematic drawings as installed showing all connections in the complete electrical system.
- 3.11.5 Location of all earthing stations, route and size of all earthing conductors manholes etc.
- 3.11.6 Layout and particulars of all cable runs size and type of cables, mode of installation, etc. as installed.

**LIST OF APPROVED MAKE
OF ELECTRICAL ITEMS**

Sl. No.	Item Description	Approved Make
1.	LT Cables	CCI / Asian / Gloster / Polycab / Havells / Finolex
2.	LT Components	L&T/ Schneider/Legrand/Siemens/ABB
3.	Meters	AE/IMP/MECO/Conserve/L&T/Secure/Jayco/Siemens
4.	CT/PT	Jyoti / C&S/ Kappa /L&T /Pragati/ Precise
5.	Switch/Receptacle	Northwest / Havells / Clipsal/MK
6.	Wires	Nicco/Asean/ Polycab/Havells/Panasonic/Finolex
7.	Light Fittings	Philips / Bajaj
8.	Ceiling Fan	Polar / Bajaj / Crompton
9.	Cable Glands	Electromeg/Comet/Flexpro
10.	Cable Lugs	Dowel/Connectwell
11.	Terminal Blocks	Elmax/Connectwell
12.	Termination Kit	Raychem / M-sea
13.	Straight Thru. Jointing Kit	Raychem / M-sea
14.	Conduit Pipe	EGA / Clipsal / National / ELPRO

For make and rating of any other major electrical item not mentioned above, contractor to take prior approval from Engineer-in-Charge before procurement of the same.



Balmer Lawrie & Co Ltd (बामर लॉरी एंड कंपनी लिमिटेड)
(A Government of India Enterprise) (भारत सरकार का एक उद्यम)
Engineering & Projects (इंजीनियरिंग और परियोजनाएं)
21, Netaji Subhas Road (21, नेताजी सुभाष रोड)
Kolkata - 700 001 (कोलकाता – 700 001)

Interior work, Furnishing, Internal painting, Internal illumination and finishing work of Office Building for Central Warehouse

At

AMTZ Andhra Pradesh

Tender No. EP / AMTZ / CWH / INT / 09

PART – II (PRICED)

NOTES:

- 1.0 Details of the items under this Schedule shall be read in conjunction with the corresponding Specifications, Drawings and other Tender Documents.
- 2.0 The work shall be carried out as per approved drawings, Specifications and the description of the items in this Schedule and/or Engineer's instructions. Drawings enclosed with these documents are only preliminary for giving some idea of the work involved.
- 3.0 Items of work provided in this Schedule but not covered in the Specifications shall be executed strictly as per instructions of the Engineer-In-Charge.
- 4.0 Unless specifically mentioned otherwise in the Contract, the Tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, Constructional Plant, Temporary Work, labour, materials, levies, taxes, transport, layout, re-pairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, services, temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the contract.
- 5.0 The Quantities of the various items mentioned in the Schedule of Items are approximate and may vary up to any extent or be deleted altogether. The Contractor, in his own interest, should get an indication of the probable extent of the work to be executed under any particular item in this Schedule before undertaking any preliminary and enabling work or purchasing bought out components related to the work.
- 6.0 Rates shall be quoted both in figures and in words in clear legible writing. No over writing is allowed. All scoring and cancellations should be countersigned by the Tenderer. In case of illegibility, the interpretation of the Engineer-In-Charge shall be final. All entries shall be in English language.
- 7.0 Engineer's decision shall be final and binding on the Contractor regarding clarification of items in this Schedule with respect to the other sections of the Contract.
- 8.0 For extra items, rates shall be derived from similar item rates included in the schedule of work. Where there is no such similar item available in the schedule, rate shall be analyzed as follows:

Rate for extra item = Cost of material (a) + cost of labour inclusive of all necessary tools, tackles, equipment, machinery and consumable (b) required to carry out the work + 15% of (a+b) towards profit and overhead + taxes, duties etc.

SCHEDULE OF WORK

SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
1	MINERAL FIBRE BOARD CEILING				
	Supplying and fixing of mineral fibre board (Prepainted) false ceiling system of Armstrong/USG or approved equivalent make with 38 mm Silhouette Steel angle and shadow wall moulding (Dune Microlook reveal edge size 600 x 600) Armstrong/USG or approved equivalent make silhouette grid quick hook suspension system having main tee 3600mm long x 44 mm web height x15 mm wide tee section with 6 mm central recess. The Main runner is to be fixed with 4 mm thick pre stretched G.I wire with soffit cleat & G.I plug inserted on the main roof to be fixed at 1200 mm c/c . The last hanger at the end of each main runner should not be greater than 600 mm from the adjacent wall. The Main runner will be at the distance of 1200 mm C/C , the 1200 mm x 44 mm x 15 mm wide cross tee sections, having an integrally formed hook nose with precise butt cut joint end is to be fit in between the main tee at a distance of 600 mm to make a module of 1200 mm x 600 mm. Another cross tee having an integrally formed hook nose with precise butt cut joint end of size 600 mm x 44 mm x 25 mm is to be fitted at 1200 mm sections parallel to Main tee at 600 mm centre to make a square grid of 600 mm x 600 mm . All base frame material should be made of doubled walled high quality galvanized steel.	30	Sqm		
	It should have a capping of material coated with baked polyester paint . The perimeter trim of size 15 mm x 24 mm white coloured secured at 450 mm C/C is to run all along the peripheral. Dune/classic lite micro look prepainted tiles of 15 mm thick (min) or thickness as specified by manufacturer, suitable for 600 mm x 600 mm to be placed on grid. The rate to also include cost of providing additional members required for A/C grills and light fixtures all complete as per manufacturer's specification , drawing & direction of Engineer in charge.				
2	PLAIN GYPBOARD FALSE CEILING				

Do not quote here

SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
	Providing and fixing suspended Gypboard false ceiling , including stepping on the ceiling (as shown in the drawing) with G.I perimeter channels of size 0.55 mm thick having one flange of 20 mm and other flange of 30 mm and wed of 27 mm along the perimeter of ceiling, screw fixed to RCC/BW with nylon sleever @ 610 mm c/c then suspending G.I intermediate channels of size 45 mm 0.9 mm thk & two flanges of 15 mm each from soffit @ 1220 mm c/c with ceiling angle of width 25mm x 10 mm x 0,55 mm thk fixed to soffit with G.I cleat & steel expansion fastners. Ceiling section of 0.55 mm thk having knurled web of 51.5 mm & two flanges of 26 mm each with lips of 10.5 mm are then fixed to the intermediate channel with the help of connectin clips & in direction perpendicular to the intermediate channel @ 450 mm c/c .12.5 mm thk tapered edge gypboard confirming to IS 2095: 1982 of M/S Indian Gypsum is then screw fixed to ceiling section with 25mm drywall screws @ 230 mm c/c, jointing the board and finishing so as to have a flush look which incudes filling and finishing the tapered and square edges of the board with jointing compound , paper tape and two coats of primer suitable of gypboard (as per recommended practices of India Gypsum)	120	Sqm		
	The rate to also include cost of making cut-outs of light fittings, trap doors, diffuser & fixing frame of perimeter channels of size 20 x 27 x 30 x 0.55 mm thk required for cutouts supported suitably etc. complete as per drawing & directions of Engineer-in-Charge. The False ceiling is to be erected in horizontal / curved / slope shape or any shape in different levels as shown in drawing. No extra cost is payable for difference in shape and levels. The measurement will be taken in horizontal linear measurement in flat shape.				

Do not quote here

SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
3	DOUBLE SKIN FULL HEIGHT PARTITIONS				
	Providing & fixing upto 89 mm thick DOUBLE SKIN PARTITIONS (including , 100 x 12 mm Teak wood skirting) PARTLY GLAZED & PARTLY LAMINATED/FULLY LAMINATED. The laminated portion to be made with well seasoned Hard wood frame or aluminium hollow section with 75 mm x 50 mm batons placed at 600 mm c/c both ways 6 mm thk Marine ply (Greenply/Mayur Ply/ Century Ply/ Mars Ply approved equivalent) to be fixed on both sides of the frame and best quality 1 mm thick laminate (Green lam / Century Mica /Merini/ Sunmica or approved equivalent) of approved make shade & texture to be pasted over the maine ply with fevicol. The glazed portion to be made with 75 mm x 50 mm Hollock wood batons frame @ spacing as directed, best quality 6.0 mm thk transparent or frosted Float Glass (Modiguard Sain Gobain / Pilkington approved equivalent)	85	Sqm	Do not quote here	
	to be fixed with decorative Teak wood moulding of size 50 mm x 25 mm with high gloss polishing including Melamine finish, grouting of frame work in RCC / Brick work etc. with all enabling works complete as per specifications & directions of Engineer-in charge The Rate to also include cost of additional frame work necessary to fix the partition to ceiling , applying preservative treatment to timber for rot & termite proofing, applying fire retardent paint on wooden surface, etc. finishing the exposed surface of timber with stained spirit polish with melamine finish.				

SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
4	LOW HEIGHT PARTITIONS				
	Providing & fixing in position DOUBLE SKIN LOW HEIGHT PARTITIONS on floor consisting of 50 x50 mm well seasoned hard wood battons or aluminium hollow section placed at 600 mm c/c bothways, jointed rigidly with nails, screws etc. & fixed to the floor with metal clamps grouted to floor and providing and fixing 6 mm thick BWR plywood as per IS 303 of " Green ply / Century or approved equivalent make on both sides of the frame work and best quality 1 mm thick laminated sheet of " "Greenlam", "Formica" "Century Mica" Marine make of approved shade, design, & texture to be pasted over the plywood with fevicol SH etc. without nailing in approved patterns.Finally the partition will be provided with 100 x 12 mm Teak wood skirting and 75 mm x 12 mm Teak wood moulding at the top complete with high gloss polishing with Melamine finish, grouting of frame work in walls, floors, etc. with all enabling works complete as per drawing and direction of Engineer in charge. The rate to also include cost of applying preservative treatment of timber for rot & termite proofing (ASCU), finishing the exposed surfaces of timber with stained spirit polish to desired colour & melamine finish.	12	Sqm		
5	WALL PANELLING WITH LAMINATED FINISH				
	Providing PANELLING ON WALLS including corners of windows, columns, etc. consisting of frame work with 50 mm x 25 mm well seasoned hard wood or aluminium hollow section @ 600 c/c (approx.) both ways jointed rigidly with nails, screws etc. fixed to walls, columns etc. with wooden plugs fixed with cement mortar (1:3) and providing & fixing 6 mm . thk BWR plywood as per IS 303, Century/Greenply or approved equivalent on top of frame work and finishing with best quality 1 mm thick Laminate (Greenlam, Century Mica, Marine, Formica) of approved shade & finish to be pasted over ply without nailing.	60	Sqm		

Do not quote
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SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
	Finally the paneling will be finished with 60 x 35 mm thk Teak wood corner moulding at the junction of ceiling and wall (in case of full height panelling) and 35 x 12 mm teak wood boarding on top (in case of low height paneling) and fixing 100 mm x 12 mm thick Teak wood skirting . The rate to also include cost of applying preservative treatment of timber for rot & termite proofing (ASCU) and finishing the exposed surface of timber with stained spirit polish to the desired colour & melamine finish, provision of extra frame work as necessary for Teak wood skirting & making cut outs for electrical fittings all as per drawings, specifications & directions of the Engineer in charge.				
6	WOODEN JAMB LINING				
	Providing and fixing wooden jamb lining to the windows and doors using SAL wood frame out of 50 x 25 mm covered with 12 mm thick BWR plywood and laminate complete with 50 x 18 mm Teak wood moulding at periphery of window duly melamine polish etc. complete.				
	a) upto 300 mm width	35	RM		
7	COMMERCIAL FLUSH DOOR SHUTTER	8.5	Sqm		
	Providing & fixing in position in any floor 30 mm thick factory made FLUSH DOOR SHUTTERS of solid core type conforming to BIS 2202 1991 having both face panels of BWR PLY of approved make (Greenply / Century / Mayur or approved equivalent make,) Alpro or approved equivalent) Boiling water proof bonding , kiln seasoned stiles, rails and core timber treated with preservative (Ascu), including the cost of 4" oxidised iron but hinges (4 nos on each leaf) preparation of surface by sand papering, applying wood filler / sealant on entire surface to achieve a smooth finish , with all labour & materials complete as per drawings, specifications and directions of Engineer in charge.				
8	PROVIDING & FIXING LAMINATE				
	Providing and fixing 1.00 mm thick LAMINATE of approved shade finish and make (GREENLAM / CenturyMica / Merino / Formica) on new/old surface, including the cost of preparation of surface, supplying and applying Fevicol or equivalent adhesive with all labour and material complete , as per specifications and directions of Engineer-in-charge.				
a)	On new surface of flush door shutter	17	Sqm		

Do not quote here

SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
9	WOOD WORK				
	Providing wood work in frames of doors , windows , clerestory windows and other frames , wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (cost of hold fast lugs or dash fastener shall be considered in this item)				
a	Second Class Teak Wood	0.15	Cum		
b	Sal Wood	0.1	Cum		
10	LOW HEIGHT CABINET				
	Providing, fitting and fixing of low height storage-cum-filing cabinet of 400 mm. depth made of 18mm thick Partical Board as specified for top, bottom, sides, shelves and hinged shutter, 6mm thick Partical Board as specified for rear, finished with 1mm thick laminate, factory made with PVC/wooden leaping fitted with hinges , Hettich/Hafelle locks & SS handle of Hettich/Hafelle make, complete in all respect as per drawing and direction of Engineer-in-charge.	18	Sqm		
11	FULL HEIGHT CABINET				
	Providing, fitting and fixing of full height storage-cum-filing cabinet of 500 mm. depth made of 18mm thick BWR plywood/Block board as specified for top, bottom, sides, shelves and hinged shutter, 6mm thick BWR plywood as specified for rear side. All expose surface to be , finished with 1mm thick laminate on shutter with PVC/wooden leaping fitted with hinges Hettich/Hafelle locks & SS handle of Hettich make, complete in all respect as per drawing and direction of Engineer in - charge.The cost includes french polish in side the cabinet / exposed edge etc.	8.2	Sqm		

Do not quote here

SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
12	VERTICAL BLIND				
	VERTICAL BLIND : Supplying and fixing "LUXAFLEX / VISTA LEVELOR / MAC brand vertical blinds with 100 mm wide woven fabric coated blinds, mechanism housed in head rail 25 mm wide and 30 mm high extruded from aluminium and louvers to be hung on superior quality runners with attached stainless steel spacers to obtain over lapping of 15 mm between the louvers. The tilting operation shall be done with steel ball chain and gathering of louvers by using a nylon cord. The louvers shall carry a sheet weight at the bottom to keep the louvers in position. They are to be inter connected at the bottom by using a fancy nylon link chain complete as per manufacturer's specifications .	18	Sqm		
13	CP BRASS DOOR STOPPER of hanging type , double buffer with necessary screws etc. with all labor and materials complete as per directions of Engineer in charge.	4	Each		
14	Supplying and fixing Chromium plated brass HARDWARE FITTINGS of approved quality , make and colour to doors and window shutter with required number of screws, etc. with all labour and materials complete, as per manufacturer's recommendations, drawings, and direction of the Engineer in charge.				
a)	Tower bolt 300 mm x 10 mm (stainless steel)	4	Nos		
b)	D type handle 200mm (chromium plated)	4	Nos		
15	Providing and fixing in position MORTICE LOCK of approved make (Godrej / Ozone / Garnish) CP brass body, 6 lever, conforming to IS 2209 inclusive of pair of handles of pressure Die cast Zinc alloy , Satin Chromium finished, with necessary screws etc. with all labour and materials complete, as per drawings, specifications and direction of the Engineer -in charge.	4	Nos		
16	Providing and fixing IS : 3564 marked Aluminium extruded section body tubular type universal HYDRAULIC DOOR CLOSER with double speed adjustment with necessary accessories and screws etc. complete. make-GODREJ / HAFELE/HETTICH/ HEAVY DUTY	4	Each		

Do not quote here

Sl No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
17	Providing and fixing in position FRAMELESS GLASS DOOR made with 12 mm thick clear toughened glass of Saint Gobain / Pilkington / Modiguard make fixed to floor and soffit of ceiling / false ceiling rigidly and at the centres wherever required in line and level with SS patch fittings, floor spring of Dorma or approved equivalent make. Finally the door will be finished with S. S door handle with locking arrangement of Ozone / Hettich/ Hafelle make with all enabling works complete as per drawing , specification and direction of the Engineer-in-charge.	4.5	Sqm		
18	Providing & Fixing SOFT-BOARD with fabric with T.W. Framing all around. (Approx size: 1200mm x 600mm), Basic rate of fabric : Rs 200 per RM	7	Sqm		
19	Providing & installing POLYESTER INSULATING FILM as specified below of M/S Garware polyester or approved equivalent) on glasses of doors / partitions including thorough cleaning of glass surfaces, scaffolding etc. with all labour & materials complete as per manufacturer's specifications & direction of the Engineer-in-charge. Frosted film 1.5 mil .(25 micron)	25	Sqm		
20	ACRYLIC EMULSION PAINT : Supplying all materials preparing surface by sand papering, scrapping of old paint if required, applying plaster of paris punning or cement putty on new/old surface to achieve a smooth and even surface, painting two or more coats of superior quality Acrylic Emulsion paint (Royale of M/s Asian paints) of approved shade on the wall/ceiling surface to give an even shade over a coat of cement primer of approved quality including the cost of scaffolding etc. complete as per , manufacturer's instruction and direction of the Engineer-in-charge.	300	Sqm		
21	Supplying and applying two or more coats of superior quality SYNTHETIC ENAMEL PAINT on wood/steel surface of aproved make (LUXOL HI GLOSS of M/s Berge paints or aproved equivalent) quality and shade, including preparation of surfaces by wire brushing sand papering , removal of all loose scales, dust and grease providing necessary primer coat on new surface , scaffolding upto any height with all labour and materials as pe the specification and direction of the Engineer-in-charge.	10	Sqm		
22	CEILING TRAP DOOR				
	Providing trap door by 6 mm th Ply with necessary frame work by aluminum channel	2	SqM		

Do not quote
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SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
23	WOODEN PELMATE				
	Providing & fixing in position wooden Pelmate of size 150 mm x 150 mm made of 18mm thick BWR Plywood jointed with fevicol & nails finished on top with 4mm thick decorative plywood veneer pasted over plywood with adhesive (Fevicol SH).finished with melamine polish. Finally all the edges of the plywood will be covered with 4mm thick Teak Wood Lipping finished with stained spirit polish. The cost also include cost of polishing the internal surface of the pelmate with stained spirit polish.	12	RM		
24	Supplying & placing in position OFFICE TABLE of size 1200 x 600 x 750 (HT) . The table will be provided with one no metal computer keyboard pull out tray, one no drawer unit (400 x 450 x 675 mm) with castors contaning 2 stationery drawers & 1 no. filing drawer. The table top, sides, drawer front and sides, wordrobe shutter, to be made with 25 mm & 18 mm thick Particle Board with laminated finish of 1mm thick laminate of approved shade, factory made with PVC leaping. The rate to include the cost of all fittings and fixtures, the runner for drawer ,make Hettich /Hafelle , Drawer handle of approved type (hettich/Hafelle make) all complete with labour and material as per drawing and direction of Engineer-in-charge.	3	Nos		
25	Supplying & placing in position OFFICE TABLE of size 1800 x 900 x 750 (HT) . The table will be provided with one no metal computer keyboard pull out tray, one no drawer unit (400 x 450 x 675 mm) with castors contaning 2 stationery drawers & 1 no. filing drawer, one side unit of size (900 x 450 x 750). The table top, sides, drawer front and sides, wordrobe shutter, to be made with 25 mm & 18 mm thick Particle Board with laminated finish of 1mm thick laminate of approved shade, factory made with PVC leaping. The rate to include the cost of all fittings and fixtures, the runner for drawer make Hettich/Hafelle) Drawer lock make Hettich/hafelle , Drawer handle of approved type (hettich make) all complete with labour and material as per drawing and direction of Engineer-in-Charge.	1	Nos		
26	WORK STATION FIXED TO LOW HEIGHT PARTITION				

Do not quote here

SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
	Providing, fitting and fixing work station to low height partition, made of 25mm.thick Particle board finished with 1mm laminate, factory made with PVC leaping fitted to partition with timber beads, complete in all respect as per drawing and direction of the Engineer in charge. The rate to also include the cost of providing metal keyboard pullout tray, wire manager, additional plywood support with laminated finish at the free end of table top etc with all necessary hardware fittings of Hettich make.				
a	1500 x 1500 x 600 mm	2	Each		
b	3000 x 600 mm (Linear) with 2 drawer units	2	Set		
c	1500 x 600 mm (Linear) with I drawer unit	2	Set		
d	4300 x 600 mm (Linear) with 4 drawer unit	1	Set		

Do not quote here

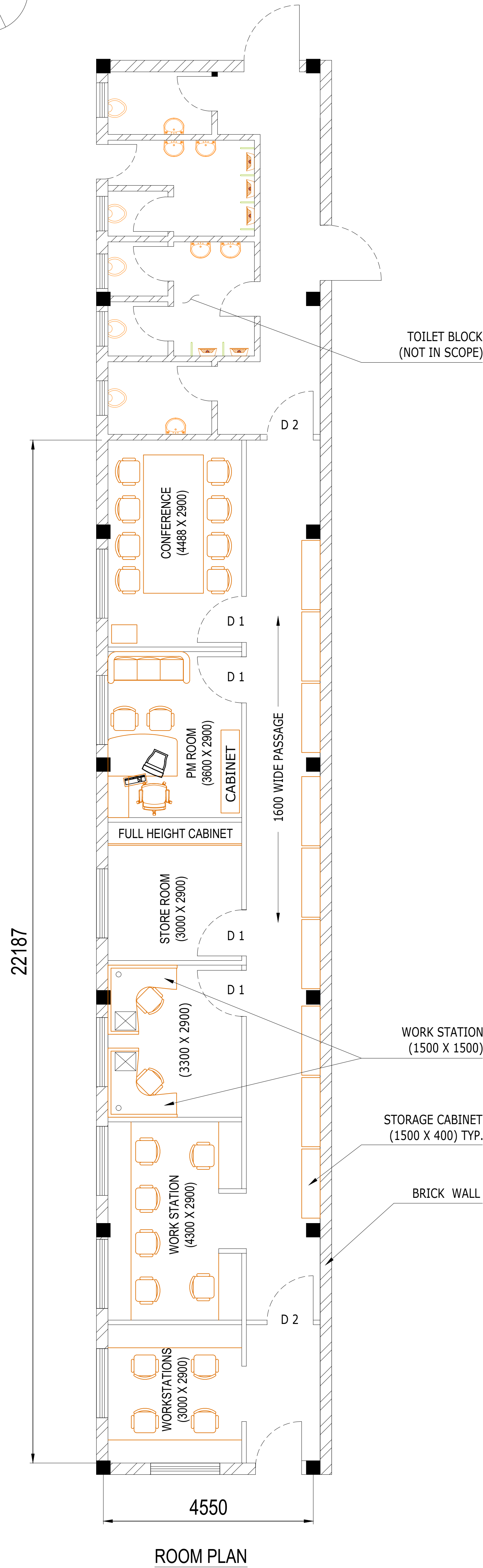
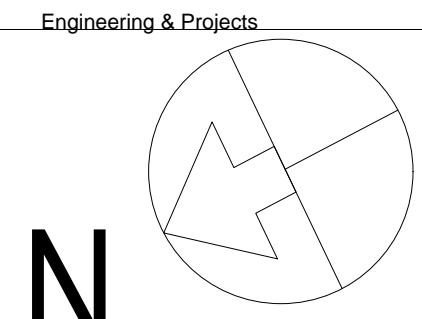
SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
27	DRAWER UNIT :				
	Providing low height Modular drawer unit on castors of size 400 mm x 450 mm x 675 mm (H) . containing 2 stationery drawers & 1 no filing drawer, made of 18 mm. thick Particle Board finished with 1mm thick laminate factory made with PVC leaping. The rate to include the cost of all fittings & fixture, runner for drawers make Hettich/Hafelle), drawer lock Hettich/Hafelle handles of approved type, castors etc all as per drawing and direction of Engineer-in-charge.	3	Nos	Do not quote here	
28	Conference Table: Supply and fixing of 8-seater table with top made up of 19mm thk ply with laminated (1mm thick) finish and PVC beading/ moulding all round. The works to include all hardware etc. of approved make. All exposed edges to have wooden lipping stained to match the desk and melamine finished. All the surfaces to be in laminated finish.	3.6	Sqm		
29	Center Table : The centre table should be of premium quality. It should be 0.95 cm thick float glass with high Quality teak wood framing / MS ERU high quality chrome plated framing. material should be used of relevant ISI specification. Approx. Size shall be - 900mm (W)x 550mm(D)x 425 mm (H) (min)	2	Nos		
30	Providing white board of good quality for conference room alongwith standard teakwood beading alround, to be fixed on the wall as per direction.	2	Sqm		
31	Sofa set : Supplying two and three seated artificial leather sofa sets of specified size and dimension. Seat rest ,back rest and side arms assembly consist of a fabricated inner frame assembly with moulded polyurethane foam having density = 40 ± 2 kg/cum which provides strength as well as comfort to the sofa. Design & specification of sofa to get approved by the Engineer-in-charge prior to supply.				
a)	Three seated sofa shall have overall size of 1800L x 740D x 740H mm of approved make	1	Nos		
b)	Two seated sofa shall have overall size of 1300L x 740D x 740H mm of approved make	1	Nos		
32	Executive Chair				

SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
	Back Height - High back with head rest chair with height range 950mm - 1050mm Back Finish - Mesh back with lumbar support in PP frame Back Mesh Color - Black Seat Finish - PU foam seat upholstered in Fabric with height 495 mm-595mm, width 510mm, Depth 510mm. Seat Fabric Color - Black Seat Height Adjustment - Pneumatic Mechanism Type - Synchronized Tilt. Back Tilt Lock - Upright Position Back Tilt Tension - Adjustable Armrests Type - 1 D arm Base Type - Black Nylon with 50mm twin wheel castors - Minimum Warranty Period - 3 years. Design & specification of chair to get approved by the Engineer-in-charge prior to supply.	1	Nos		
33	Chair for Officers, Visitors & Conference Room	26	Nos		
	Back Height - Medium Back chair with height range 950mm - 1050mm Back Finish - Mesh back with lumbar support in PP frame Back Mesh Color - Black Seat Finish - PU foam seat upholstered in Fabric with height 495 mm-595mm, width 510mm, Depth 510mm. Seat Fabric Color - Black Seat Height Adjustment - Pneumatic Mechanism Type - Synchronized Tilt. Back Tilt Lock - Upright Position Back Tilt Tension - Adjustable Armrests Type - 1 D arm Base Type - Black Nylon with 50mm twin wheel castors - Minimum Warranty Period - 3 years. Design & specification of chair to get approved by the Engineer-in-charge prior to supply.				
34	Supply of plastic chair of approved colour and style from Nilkamal, Supreme or approved equivalent	5	Nos		
	SUB-TOTAL (PART- A)				

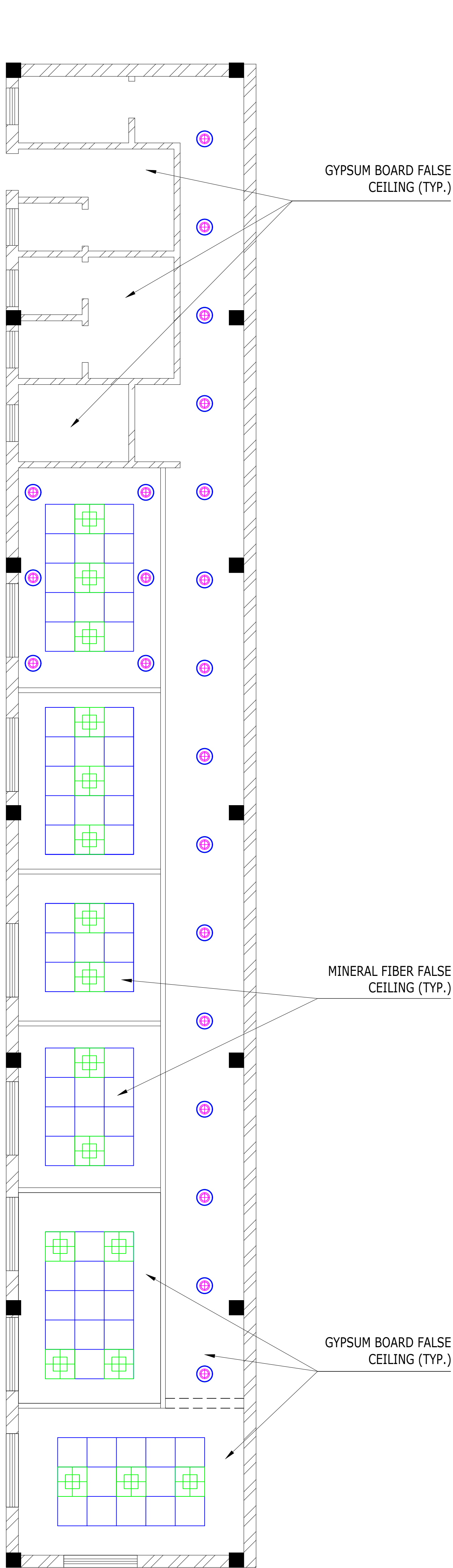
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SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
PART- B (AIR CONDITIONING WORK)					
Sl. No.	Description of item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
1	Supply, installation, testing & commissioning of Split Type Air Conditioner of 1 TR 3 star inverter type split type air conditioner with Copper Condenser and all necessary piping and accessories, voltage stabilizer and remote control , remote control holder & remote control batteries. The scope also covers followings: i)Supply and Fixing of heavy duty Powder Coated steel Stand for mounting outddor unit. ii) Supply of Single Phase 3 pin 16-20 amps plug top for powering the AC. iii)Making holes in brick wall/ false wall for taking out cooper pipe and drain pipe and and making it good with plaster/putty and then touch up painting. Approved Make: Daikin/Voltas/LG/SAMSUNG/HITACHI	Set	2	Do not quote here	
2	Supply, installation, testing & commissioning of Split Type Air Conditioner of 1.5 TR 3 star inverter type split type air conditioner with Copper Condenser and all necessary piping and accessories, voltage stabilizer and remote control , remote control holder & remote control batteries. The scope also covers followings: i)Supply and Fixing of heavy duty Powder Coated steel Stand for mounting outddor unit. ii) Supply of Single Phase 3 pin 16-20 amps plug top for powering the AC. iii)Making holes in brick wall/ false wall for taking out cooper pipe and drain pipe and and making it good with plaster/putty and then touch up painting. Approved Make: Daikin/Voltas/LG/SAMSUNG/HITACHI	Set	4		
3	Supply & installation of additional insulated copper pipe in excess of 5M (supplied along with unit) alongwith winding the pipe with tape. To be paid at actual.	RM	10		
4	Supply & installation of additional drain pipe in excess of 5M (supplied along with unit) alongwith winding the pipe with tape. To be paid at actual.	RM	10		
5	Supply & Installation of Pedestal fan of sweep dia 450 mm with 3 speed control. (Make: Havells/Bajaj/Crompton)	Nos	2		
6	Supply & laying of additional 3 core 2.5/4 sq. mm. PVC Insulated flexible Copper Cable in excess of standrad cable supplied with the unit. To be paid at actual.	RM	20		

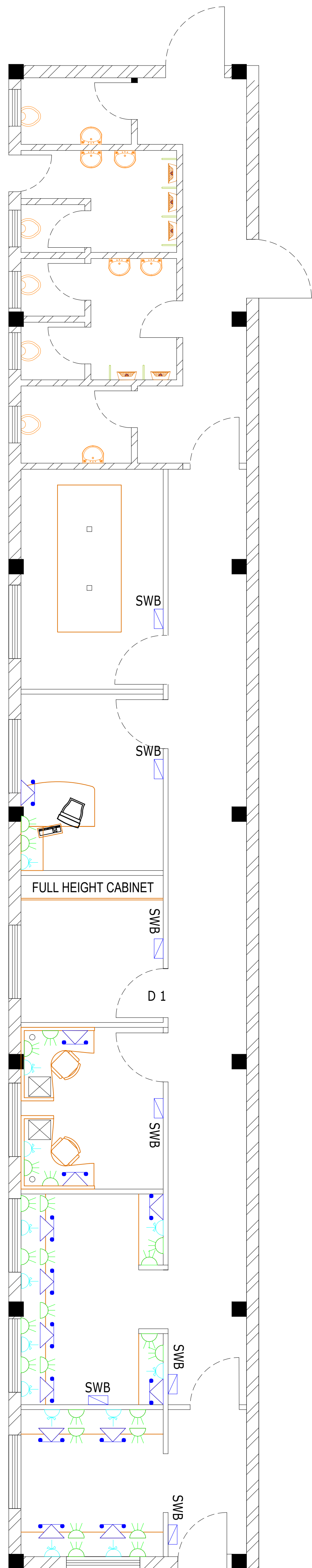
SI No.	Description of Item	Qty	Unit	Rate (in Rs)	Amount (in Rs)
7	Supply & laying of 6 Module Pop up Box Brushed Steel with flush mounted box along with 3 pin socket, switch, LAN & Telephone socket. (Make :Legrand/Honeywell)	Nos	2		
8	Supply & Laying of High Quality 15 Pin Male To Male 1.5 Meter VGA Cable For Projector	Mtr	10		
	SUB-TOTAL (PART- B)			Do not quote here	
	TOTAL (PART-A + PART-B)				
	Add GST @ 18%				
	GRAND TOTALincluding GST				



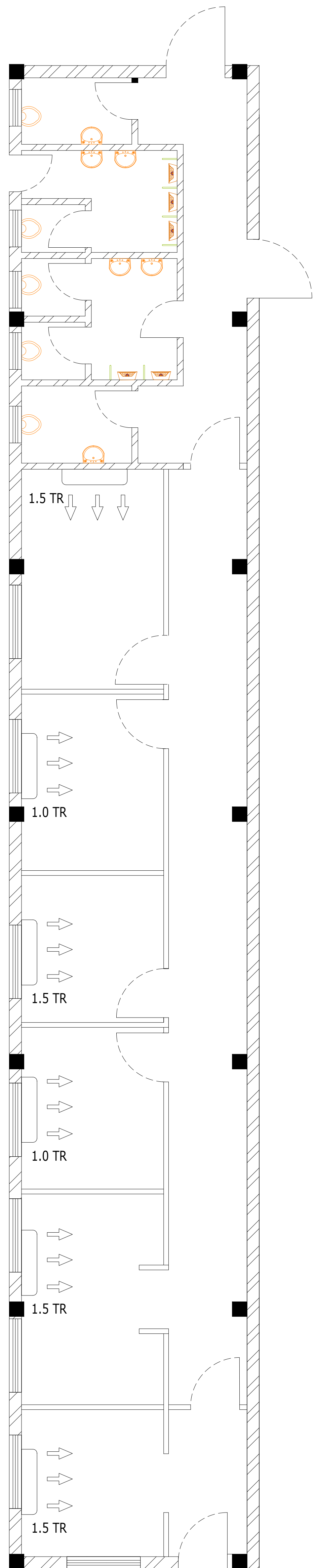
ROOM PLAN



FALSE CEILING & CEILING LIGHT PLAN



ELEC SWITCH BOARD & SOCKET BOARD LOCATION

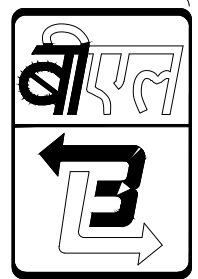


AC INDOOR UNIT LOCATION

LEGENDS			
SL NO.	SYMBOL	DESCRIPTION	QTY
01.		6/16AMP UPS SOCKET	13 NOS.
02.		6/16AMP RAW POWER SOCKET	26NOS.
03.		TELEPHONE POINT	13 NOS.
04.		POP UP BOX	02 NOS.
05.		SWITCH BOARD	07 NOS.

SCHEDULE OF DOOR & WINDOW				
SL NO.	ITEM	SIZE (W X H)	QTY	TYPE
01.	D 1	1000 X 2100	04 NOS.	WOODEN FLUSH DOOR
02.	D 2	1000 X 2100	02 NOS.	GLASS DOOR

TENDER PURPOSE ONLY



Balmer Lawrie & Co. Ltd.
ENGINEERING & PROJECTS

NO.	DATE	REVISION	BY	CHKD.	APPD.	DRAWN	KD	17.10.2019	PROJECTS : PROPOSED CENTRAL WAREHOUSE AT AMTZ , VIZAG
						CHECKED	PD	17.10.2019	OWNER : BALMER LAWRIE & CO. LTD, SBU-LI
						APPROVED	GCS	17.10.2019	TITLE : INTERIOR LAYOUT FOR ADMIN BLDG.
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			JOB NO. :		REV : 00		SHEET NO. : 1		