



Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant,  
Ranipet –632 406

**PART – I TECHNICAL BID**

Tender Document for the work of:

Construction of Type – E Quarters along with servant Qtrs – 2 Nos. at  
BHEL Township.

Opening Date: 11.04.07

This tender document contains 123 pages

CONTRACTOR/TENDERER

ISSUING OFFICER



Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant,  
Ranipet –632 406  
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Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant,  
Ranipet –632 406  
CIVIL ENGINEERING DEPARTMENT

**NOTICE INVITING TENDERS**

1. Tender Notice No. : BAP:CF&D:39/2006-07 (Sl.No.05)
2. Name of work : Construction of Type – E Quarters along with servant Quarters – 2 Nos at BHEL Township.
3. Contract period : 6 months.  
( From the date of commencement of the contract. Details as per completion schedule indicated under “Special Conditions”)
4. Last Date & Time for receipt of Completed Tender. : **Before 2.30 P.M. on 11.04.07**
5. Date & Time of tender Opening (Technical bid) : **At 3.00 P.M. on 11.04.07.**
6. Place of submission of Tender : To be dropped in Tender box at Office of DGM (Civil Factory), Ranipet -632 406.
7. Maintenance period : SIX months from the date of completion of the entire work and handing over to Bharat Heavy Electricals Limited for use.

This tender document contains:

**Part I :-** Technical Bid from serial No.1 to 104 including General conditions of Contract, Special conditions of contract, drawings, Annexure A to G, Schedule A to D, etc.

**Part II :-** Commercial Bid from serial No.1 to 19 Bill of Quantities.

Tenders must be submitted in sealed covers and should be addressed to the Dy. General Manager/Civil (Factory). The full name and address of the tenderer and the name of work shall be noted on the cover.

Note: The tenderer shall return the duly filled in tender document after affixing signature on all pages.

Issued to:

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Bharat Heavy Electricals Limited  
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**INSTRUCTIONS TO TENDERERS**

1. QUALIFICATIONS OF TENDERERS:

Only tenderers who have previous experience in the work of this nature and having requisite Eligible Criteria as mentioned in the Notice Inviting Tender are expected to quote for this work. Offers from tenderers who do not have proven and established experience in the field are not likely to be considered.

2. DATA TO BE ENCLOSED:

Full information shall have to be given by the tenderer in respect of the following. Non-submission of the following information may lead to rejection of the offer.

a. FIANCIAL STATUS:

Financial viability as per proforma enclosed at ANNEXURE-‘A’.

b. INCOME TAX CERTIFICATES:

A certificate of Income tax clearance from the appropriate authority in the forms prescribed therefore duly indicating annual turnover. These certificates shall be valid for one year from the date of issue or for the period prescribed therein for all tenders submitted during the period.

c. PERVIOUS EXPERIENCE:

A statement giving particulars (duly approved by documentary evidence) of the various service rendered in similar works by the tenderer indicating the particulars and value of each work, the site location, the duration, date of completion etc., strictly as per proforma enclosed at Annexure-B.

d. ORGANISATION CHART:

The organization pattern that are totally available with him and that will be employed by the tenderer for this work in the form of month wise and category wise deployment plan duly indicating the number of Engineers, Supervisors, skilled workers etc, as per proforma enclosed at Annexure-‘C’.

e. An attested copy of the Power of Attorney, in case of the tender is signed by an individual other than the sole proprietor, shall also be attested.

IN CASE OF AN INDIVIDUAL: His full name, experience, address and nature of business.

or

IN CASE OF PARTNERSHIP FIRMS: The names of all the partners with addresses and their experience. A copy of the partnership deed instrument of Partnership duly certified by a notary public shall be enclosed.

IN CASE OF COMPANIES: Date and place of registration including date of commencement certificate in case of public companies and the nature of business

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carried on by the Association are also to be furnished. Also indicate names, addresses and experience of the Directors.

- f. A list of tools and tackles (including concrete mixers, vibrator, jack hammer, welding sets etc., wherever applicable) that the tenderer is having and those that will be deployed on this job as per proforma enclosed at ANNEXURE – 'D'.
- g. Analysis of unit rate quoted as per proforma enclosed at ANNEXURE – 'E'.
- h. Declaration sheet as per proforma enclosed at ANNEXURE –'F'.
- i. In addition to the above, the particulars required elsewhere in tender documents.
- j. Checklist and schedule of general particulars duly filled in, signed and stamped as per ANNEXURE – 'G'.

Note: All the data required to be enclosed with the tender need to be furnished neatly typed, signed and stamped in the given formats only (in the form of separate sheets) failing which the tender may be considered as incomplete and is liable for rejection. Documentary proofs wherever necessary also need to be enclosed.

3. AUTHORISATION AND ATTESTATION:

Tenders shall be signed by persons duly authorized empowered to do so. Certified copies of such authority and relevant documents shall be submitted along with the tenders.

4. No DEVIATIONS TO THE TENDER CONDITIONS WILL NORMALLY BE ACCEPTED. HOWEVER, IF THE TENDERER INSISTS FOR CERTAIN DEVIATIONS TO THE CONDITIONS, FINANCIAL IMPLICATIONS THEREOF SHALL BE LOADED TO THE QUOTED PRICE FOR EVALUATING THE TENDERER'S OFFER.
5. This tender specification as a whole, furnishing all the details and other documents as required in the following pages, shall be duly signed and sent in a sealed cover superscribing the name of work as given in the tender notice.
6. The tender shall be addressed to OFFICER INVITING TENDER AS INDICATED IN THE TENDER NOTICE.
7. Tenders submitted by post shall be sent as "REGISTERED POST ACKNOWLEDGEMENT DUE" and shall be posted with due allowance for any postal delay. The tenders received after the date of opening are liable to be rejected. Telegraphic offers and offers received by telex may not be considered.
8. Tenders shall be opened by authorized officer of BHEL, at his office at the time and date as specified in the tender notice in the presence of such of those tenderers or their authorized representatives who may be present.
9. Tenderer must fill up all the schedules and furnish all the required information as per the instructions given in various sections of the tender specification. Each and every page of the Tender specification must be SIGNED, STAMPED AND SUBMITTED ALONG WITH THE OFFER by the Tenderer in token of complete acceptance thereof. The information furnished shall be complete by itself.

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10. Should a tenderer find discrepancies or omissions in the drawings or any of the tender documents or should be in doubt as to their meaning, he should at once address the authority inviting the tender for clarification. Every endeavor is made to avoid any error which can materially affect the basis of the tender but the successful tenderer shall take upon himself to provide for the risk of any error which may be subsequently discovered and shall make no subsequent claim on account thereof.
11. Where the tender called for covers only the building work proper and excludes internal services such as sanitary and water supply installation, Electrification etc., the building contractor will have to leave pockets chases, holes etc. as required for other works and will have to phase his work to ensure smooth progress of the work of the other agencies also as directed by the Engineer-in-charge.
12. The contractor's responsibility under this contract shall commence from the date of receipt of the order of acceptance of his tender.
13. The maintenance period for this work will be SIX MONTHS from the date of actual completion of the particular work & handing over to the BHEL for use.
14. The EARNEST MONEY DEPOSIT shall be submitted in the form of DEMAND DRAFT only. Tenders received without Earnest Money Deposit will not be considered.
15. Return of EMD:
  - a. The Earnest Money Deposit of the successful tenderer will be retained towards part of Security Deposit.
  - b. EMD given by all unsuccessful tenderers shall be refunded normally within fifteen days of acceptance of award of work by the successful tenderer.
16. Forfeiture of EMD:

EMD by the Tenderer will be forfeited as per Tender Documents if

  - a. After opening of Tender, the tenderer revokes his tender within the validity period or increases his earlier quoted rates/conditions.
  - b. The tenderer does not commence the work within the period as per LOI / Contract is silent in this regard then within 15 days after award of contract.
17. The EARNEST MONEY DEPOSIT shall not carry any interest.
18. Should a tenderer or a Contractor has any relative, or in the case of a firm or Company of its shareholders or shareholder's relative, employed in a Senior Capacity with the Bharat Heavy Electricals Limited, the authority inviting tenders shall be informed of this fact at the time of submission of the tender itself, failing which the tender may be disqualified or if such fact subsequently comes to light, the contract may be reminded in accordance with the relevant provisions in the General Conditions of Contract.

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19. If the tenderer expires after the submission of his tender or after the acceptance of his tender the BHEL may at their discretion, cancel such tender.

If a partner of a firm expires after the submission of the tender or after the acceptance of tender, the BHEL, may cancel such tender at their discretion unless the firm attains its character.

20. The Bharat Heavy Elecatricals Limited will not be bound by any power of Attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. They may, however recognize such power of Attorney and changes after obtaining proper legal advise the cost of which will be chargeable to the Contractor concerned.
21. If the tenderer deliberately gives wrong information in his tender or creates conditions favorable for the acceptance of his tender, the Bharat Heavy Electricals Limited reserve the right to reject such tender at any stage.
22. The expenses for completing and stamping the agreement shall be paid by the Contractor.
23. The General conditions of contract for Lumpsum, Item Rate & Percentage Contract and Special conditions of Contract are complementary to each other and where they are in conflict the Special Conditions shall prevail.
24. Tenderers shall not increase their quoted rates in case the Bharat Heavy Electricals Limited negotiates. Such negotiations shall not amount to cancellation or withdrawal of the original offer and the rates originally quoted shall be binding on the tenderers for a period of THREE MONTHS from the date of opening of tenders by which time a final decision on the award of work will be made. Once the contract is awarded to successful tenderer the rates quoted in his tender as accepted shall be valid and binding on him till the work is completed in all respects and final bill is paid.
25. Canvassing in any form in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
26. These 'Instruction to Tenderers' shall be deemed to form an integral part of the contract for the work to be entered into.

The contractor's responsibility under this contract shall commence from the date of receipt of the order of acceptance of his tender.

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**ANNEXURE-A**

1. Owner's capital in the business (In case of a Partnership, please mention percentage shares and amounts).
2. Quantum of business done during last three financial years :
  - I) 2003-04 :
  - ii) 2004-05 :
  - iii) 2005-06:
3. Value of fixed Assets of the business in last three years:
  - I) 2003-04
  - ii) 2004-05 :
  - iii) 2005-06:
4. Guarantee limits (if any) enjoyed by the firm:
5. Over draft limits (if any) enjoyed by the firm:
6. Please enclose audited profit and loss account and balance sheet for last 3 years:
7. Certificate from Scheduled Bank to prove Contractor's financial capacity to under take the work duly indicating the financial limits the tenderer enjoys.

**NOTE:**

All the above documents should be duly certified by auditor's/Bank as may be applicable.

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**ANNEXURE - B**

ANALYSIS OF SIMILAR JOBS EXECUTED/IN PROGRESS

| Sl.No. | Agency by whom awarded | Location of Project | Capacity | Scope of work | Date of Award | Contract Value |
|--------|------------------------|---------------------|----------|---------------|---------------|----------------|
| (1)    | (2)                    | (3)                 | (4)      | (5)           | (6)           | (7)            |
|        |                        |                     |          |               |               |                |
|        |                        |                     |          |               |               |                |

| %age work completed and due date of compln. | Date of completion if job is already over | No. of skilled/unskilled workers deployed at peak | No. of Engineers & Supervisors deployed at peak | Details of major T&P like Tractors, Trailers with them | Details of major T&P like Tractors, Trailers with their agency | Consumables by whom |
|---|---|---|---|--|--|---------------------|
| (8)   | (9)                                       | (10)  | (11)  | (12)   | (13)   | (14)                |
|   |   |   |   |  |  |                     |
|   |   |   |   |  |  |                     |

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ANNEXURE -C

MONTH WISE MANPOWER DEPLOYMENT PLAN

| Sl. No. | Category | No. of person available on roll of the Organization | Indicate No. of persons to be deployed in each month |                 |
|---------|----------|---|--|-----------------|
|         |          |   | 1 <sup>st</sup>                                      | 2 <sup>nd</sup> |
|         |          |   |  |                 |

SIGNATURE OF TENDERER

WITH STAMP

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ANNEXURE – D

(A) STATUS OF TOOLS & PLANTS

| Sl. No. | Name of Equipment | Quantity owned | Registration No. wherever applicable | Documents enclosed for proof of ownership | Present Location | Quantity proposed to be deployed for this job |
|---------|-------------------|----------------|--------------------------------------|---|------------------|---|
|         |                   |                |                                      |   |                  |   |

(B) MONTH WISE T&P DEPLOYMENT PLAN

| Sl. No. | Description of T&P | MONTHS<br>Indicate No. to be deployed in each month |                 |                 |
|---------|--------------------|---|-----------------|-----------------|
|         |                    | 1 <sup>st</sup>                                     | 2 <sup>nd</sup> | 3 <sup>rd</sup> |
|         |                    |   |                 |                 |

SIGNATURE OF TENDERER

WITH STAMP

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ANNEXURE – E

| Sl.No. | Description                                       | Percentage of the Unit Rate Quoted | Remarks |
|--------|---|------------------------------------|---------|
| 1      | Salary & Wages for staff and workers              |                                    |         |
| 2      | Consumables                                       |                                    |         |
| 3      | Depreciation & Maintenance for T&P                |                                    |         |
| 4      | Depreciation & Maintenance for other items        |                                    |         |
| 5      | Establishment and Administration expenses of site |                                    |         |
| 6      | Overheads   |                                    |         |
| 7      | Profit  |                                    |         |

SIGNATURE OF TENDERER

WITH STAMP

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ANNEXURE – F

DECLARATION SHEET

I, \_\_\_\_\_ hereby

Certify that, all the information and data furnished by me with regard to this Tender Specification No. \_\_\_\_\_ are true and complete to the best of my knowledge. I have gone through the specification, conditions and stipulations in detail and agree to comply with the requirements and intent of specification.

I, further certify that I am the duly authorized representative of the under mentioned and a valid power of attorney to this effect is also enclosed.

Tenderer's Name and Address

Authorized Representative's Signature with name and address

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ANNEXURE – G

CHECK LIST AND SCHEDULE OF GENERAL PARTICULARS

NOTE : Tenderers are requested to fill in the following details and no column should be left blank

|    |  |  |
|----|--|--|
| 1  | Name and address of the tenderer   |  |
| 2  | Telegraphic/telex address  |  |
| 3  | Phone Number (Office)  |  |
| 4  | Name & Designation of the Official of the tenderer whom all the references shall be made |  |
| 5  | Tenderer's Proposal No & Date  |  |
| 6  | Whether EMD submitted (By Cash/Bank Guarantee/Bank Draft)                                |  |
| 7  | Validity of offer/rates quoted for three months from the date of opening of tender       |  |
| 8  | Financial Status (in the format as per Annexure – A)                                     |  |
| 9  | Income Tax Clearance Certificate   |  |
| 10 | Details of Experience (in the format as per Annexure – B)                                |  |

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|    |   |  |
|----|---|--|
| 11 | Month wise & category wise manpower deployment plan (in the format as per Annexure – C) |  |
| 12 | Attested copy of power of attorney  |  |
| 13 | Details about type of the firm  |  |
| 14 | Status of T&P and month wise deployment plan (in the format as per Annexure – D)        |  |
| 15 | Analysis of unit rate quoted (in the format as per Annexure – E)                        |  |
| 16 | Declaration sheet (in the format as per Annexure – F)                                   |  |

Date:

SIGNATURE OF TENDERER

WITH STAMP

WITNESS:

(Signature with Full Particulars)

1.

2.

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SPECIAL CONDITIONS

SCOPE OF WORK

The work to be done under this contract consist of providing all labour, construction equipment, supervision, materials, scaffoldings, tools & plants, transportation & storage and all incidental items not shown or specified but reasonably implied or necessary for completion of entire civil works required for construction of residential buildings.

Tender drawings annexed hereto, are preliminary and give the nature of work and only for guidance to the tenderers. The work shall be carried out in accordance with drawings to be made available during the course of execution of works.

The contractor in the event of this work awarded to him, shall establish an office at site and keep posted an authorized responsible officer with a valid power of attorney for the purpose of the contract. Any order or instructions of the Engineer-in-charge or his duly authorized representative, at site office will be deemed to communicate to the contractor at his legal address.

COMPLETION SCHEDULE:

The entire work under this contract will have to be completed within the period of SIX MONTHS from the date of LOI as per following schedule. The scope of work is deemed to be completed only when so certified by Engineer-in-charge.

The contractor is required to commence the work within 15 days from date of issue of LOI, failing which the contract is liable to be cancelled and EMD/SD shall be forfeited.

NATURE & QUALITY OF WORKS:

Special care should be taken to minimize the hindrance to the occupants.

All materials supplied by the contractor and incorporated on the work shall conform to the latest IS specifications including all applicable official amendments and revisions and should be tested as per IS.

It is not the intent to specify here in all details, however the work in all respects shall confirm to CPWD/I.S. Codes specifications and standard engineering practices and workmanship if there is any deviation from I.S. Codes/CPWD specifications, the decision of the Engineer-in-charge shall be final and binding to the contract.

Any work found defective/unsatisfactory the contractor has to rectify the same at his own cost. In case the contractor fails to rectify the defects within a specified time as per the Engineer-in-charge's instructions the same will be got done by BHEL at the risk and cost of the contractor and the cost deducted from the contractor's bill.

The contractor shall prepare and submit quality plan/quality assurance program with all details along with tender documents and indicate the field equipments that he is going to use for quality assurance.

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WATER & POWER:

Water and Power provided to the contractor from the nearest tapping point at free of cost. The contractor shall make necessary arrangements for drawing water and power to the work spot at his own cost complying with necessary safety regulations as per the relevant statutory regulations and codes.

SITE CLEARANCE:

Written permission for erection of temporary work sheds at site will have to be obtained from BHEL. Once the work is completed, the contractor should remove his temporary shed and also the unwanted materials and dispose the debris as instructed by the Engineer-in-charge. Around 100 metres width of the constructed area, the contractor should remove all debris and clear unwanted materials.

DISMANTLING WORKS:

The contractor has to dismantle the structures, foundations etc., to the required depth and width including excavation so as to facilitate the excavation for new structures/services etc., and has to level the areas by removing the debris as directed by the Engineer-in-charge.

Prior approval of the Engineer-in-charge shall have to be obtained by the contractor before starting any dismantling work.

Dismantling works should be carried out in such a manner and such methods and equipments should be used, that no damage is caused to other structures, works and equipments etc., in the near by areas of works. In case such damage is caused, the contractor has to make good the same to the full satisfaction of the Engineer-in-charge.

**If any employee/labourer working in the contract is found involved in corruption activities, the contract will be terminated and the contractor will be banned for applying for any future contract for 3 years.**

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**WORKS CONTRACT – VARIOUS STATUTORY REQUIREMENTS**

All the works contract in BHEL, will be governed by the following statutory regulations.

1. Since with effect from 01.11.1990 Provident fund becomes applicable for engagement of a worker even for a single day, deduction of PF by the contractor has to be ensured. The contractor has to remit the PF dues of the workers every month end, before the submission of the running account bill.
2. The list of number of employees who are to be engaged with details of their names, age, father's name etc. and their daily attendance have to be maintained by the contractor.
3. The contractor has to ensure payment of the statutorily prescribed minimum wages, (as per minimum wages Act) as applicable from time to time and maintain proper records of their timely disbursement. These records would need to be preserved and made available even after the contract is over for any verification by the various statutory authorities. The current minimum wages per day for USW is Rs.108.40 (likely to change after April 2007).
4. Proof of deduction as well as remittance of the PF dues to the appropriate authorities has also to be shown and proper records maintained.
5. Similarly the contractor should cover all his workers (including that of subcontractor's workers) under ESI Scheme. The contractor shall be asked to furnish along with the bill each month details in the following format for having effected payment of both deduction/contribution towards PF/ESI to the concerned statutory authorities.

Details of workers employed by the contractor for the month of -----

| Sl. No. | Name of the Contract workers | No. of days worked | Wages paid for days worked | Amount of PF deducted |
|---------|------------------------------|--------------------|----------------------------|-----------------------|
| 1       | 2                            | 3                  | 4                          | 5                     |
|         |                              |                    |                            |                       |

| Amount of ESI deducted | Amount of payment of PF to Authorities | Voucher Ref: (Copy attached) | Amount of ESI contribution paid | Voucher Ref: (Copy attached) |
|------------------------|--|------------------------------|---------------------------------|------------------------------|
| 6                      | 7                                      | 8                            | 9                               | 10                           |
|                        |  |                              |                                 |                              |

6. The tenderer has to furnish proper returns to the concerned statutory authorities.
7. The tenderer has to ensure that all the required information in the tender, are to be furnished, failing which BHEL reserves the right to reject the offer.
8. The contractor has to submit Sales Tax Registration No. irrespective of their liability, if any.

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9. The first running bill will be released only on production of the following documents.
  - i) PF Registration No.,
  - ii) Sales Tax Registration No.
  - iii) Workmen Insurance Policy
  - iv) Labour License No.
  - v) Service Tax Regn. No.
10. The final payment will be released only on production of clearance certificate from PF, ESI and Assessment orders from the Commercial Tax authorities concerned.
11. Works Contract Sales tax will be recovered as applicable.
12. **“The rates are to be quoted exclusive of Service Tax. The service Tax, if any to be claimed separately by submitting necessary documents as mentioned in the Service Tax Act”.**



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RATE SCHEDULE

The tender will be operated as two bid system consisting the technical bid in COVER – 1 and commercial bid in COVER – 2.

The technical bid should contain a separate cover and it will be opened as indicated in the NIT.

The commercial bid should contain the Bill of Quantities, tender schedule along with rates for the same.

The commercial bid should contain a separate cover and it will be opened after verifying the technical capability of the tenderer by scrutinizing the technical bid.

Before filling the rates the contractor may note the following.

1. The tenderer is expected to fill the rate schedule both in figures and words after satisfying all the terms and conditions of the tender specification. The scope of work and responsibility of the contractor as mentioned under these specifications shall be covered within the quoted rates.
2. Rates for each item of the tender schedule be quoted in Rupees and Paise only. In case of any difference in the rates quoted in figures and in words the lower of the two rates will be taken as the tendered rate. Further following rules are applicable if there is discrepancy between rate and amount.
  - a) In the event of an error occurring in the amount column of schedule of items as a result of wrong extension of the unit rate and quantity, the unit rate shall be recorded as firm and extension shall be amended on the basis of the rate.
  - b) All errors in totaling in the amount column and in carrying forward totals shall be corrected.
  - c) The totals of various sections of schedule of items amended shall be carried over to the General Summary and the tendered sum amended accordingly. The tendered sum of altered shall, for the purpose of tender, be substituted for the sum originally tendered and considered for acceptance instead of the original sum quoted by the tenderer. Any rounding off quantities in sections of the schedule of items or in General summary, by the tenderer, shall be ignored.
3. Rate quoted shall be firm through out the contract period and include all royalties, terminal taxes, Central or Provincial Excise tax, Sales tax, Sales Tax on works contract and any other taxes leviable under the State or Central Government rules. The Bharat Heavy Electricals Limited will not entertain any claim in this regard.
4. All entries in the tender shall either by typed or be written in ink. Erasures and over writings are not permitted. All cancellations and insertions shall be duly attested by the tenderer.
5. The tenderer are required to quote their rate excluding cost of all materials like **CEMENT, REINFORCEMENT STEEL**. The cement adequacy has to be as per CPWD practice. The rate quoted shall be inclusive of wastage on cement and steel.

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6. The tenderer are advised to assess the correct distances, availability of men and materials, facilities at site, prevailing site conditions, transportation routes etc., by visiting site and other places before submitting the quotations. BHEL shall not be responsible in any way for lack of contractor's knowledge for the same.
7. The rates quoted shall remain same whether said works have to be carried out in normal working hours on normal days or said works have been carried out beyond normal working hours and on Sundays & holidays. No extra claim shall be entertained on this account by BHEL.
8. The quantity indicated in Bill of materials are approximate and are liable to vary due to deletion, alteration, addition up to any extent subjected to a variation of **plus or minus (+/-) 20%** of the total contract price. The contractor shall not claim any compensation for change in scope of work/variation in schedule of quantities to any extent subject to the variation limit specified above.
9. The contractor has to follow all safety regulations prevailing in the site. The contractor should take note of these situations. No extra claim on this account shall be entertained.
10. The tenderer shall quote a percentage above or below or at par, the rates shown in the Bill of Quantities based on CPWD SOR 2002 (**excluding cost of cement & Reinforcement steel wherever applicable**). The percentage quoted shall be clearly written both in figures and words.
11. The quoted percentage will apply to the Individual items uniformly.
12. The items of work other than those mentioned in Bill of Quantities will have to be carried out at the rates to be fixed by this organization. The same offered percentage will be applicable with reference to CPWD SOR 2002.

CONTRACTOR/TENDERER

ISSUING OFFICER



Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant,  
Ranipet –632 406

## SCHEDULE - A LIST OF WORKS AND PRICES

Details and quantities of each item shown in the bill of quantities here to are only approximate. They are given as a guide for the purpose of tendering only and are liable to variation and alteration at the discretion of the competent authority. The work under each item as executed shall be measured and priced at the corresponding rate quoted by the contractor in the bill of quantities attached hereto.

| Sl.No. | Description of work/supply   | Total amount of work/supply(in figures and words) | Period of Completion |
|--------|--|---|----------------------|
| 01     | Construction of Type – E Quarters along with servant Qtrs – 2 Nos. at BHEL Township. | As per BOQ  | SIX MONTHS           |

CONTRACTOR/TENDERER

ISSUING OFFICER



Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant,  
Ranipet –632 406

**BILL OF QUANTITIES  
ANNEXURE TO SCHEDULE - A**

**NAME OF WORK:** Construction of Type E Quarters along with servant Qtrs–2 Nos.  
at BHEL Township

| SL.NO. | APPROXIMATE<br>QUANTITY | DESCRIPTION OF<br>WORK/SUPPLY | SPECIFICATION | RATE (both<br>in figures<br>and words) | UNIT | AMOUNT |
|--------|-------------------------|-------------------------------|---------------|--|------|--------|
|--------|-------------------------|-------------------------------|---------------|--|------|--------|

As per separate sheets attached vide Serial Page Numbers  
From 01 To 19

CONTRACTOR/TENDERER

ISSUING OFFICER



**SCHEDULE – B**  
**ISSUE OF STORES TO THE CONTRACTOR**

1. The following materials will be issued to the contractor at BHEL stores/stock yard.

| SL.NO. | DESCRIPTION                                      | PLACE OF                  | ISSUE RATE |
|--------|--|---------------------------|------------|
| 1      | Cement   | BHEL Stores or Stock Yard | Free issue |
| 2      | MS Reinforcement rods cold twisted deformed rods | BHEL Stores or Stock Yard | Free issue |

2. It will be the responsibility of the contractor to submit his indents for the above stores in writing at least SEVEN days in advance of the actual requirements

3. Issue of stores is subject to their availability at the place of issue noted above. Items of stores to be issued by BHEL, which are not available at the time of indenting by the contractor, may be supplied by BHEL after necessary procurement. The contractor shall not be entitled to any claim or compensation for delay in the supply of stores by BHEL under any circumstances.

4. The material will be issued only during the working hours of the BHEL stores department.

5. The contractor shall from time to time, render proper account of all materials issued to him by BHEL. If he fails to do, no further issue of materials will be made to him and he will be responsible for any delay in the execution of the work, which may occur on this account.

6. All surplus materials in good condition, which are not returned to the BHEL Stores and quantities of materials consumed in excess of max. permissible limit as fixed by BHEL shall be charged for at punitive rates, which will be 100% higher than the recovery rates.

7. The steel materials if issued will be in random lengths and sizes as stocked by the BHEL and the cost of all cutting, conversion, substitution and fabrication as well as wastage shall have to be borne by the contractor.

8. The cement and reinforcement steel will be issued at free of cost at BHEL stores. Recovery for the excess consumption up to 5% above theoretical consumption will be recovered at Rs.4318.60 & Rs.30809.30 respectively. Beyond 5% punitive rate shall be charged, which will be 100% higher than the recovery rate specified above.

9. The decision of the accepting officer/Engineer-in-charge as the case may be as to the extent to which materials have been rendered surplus or consumed in excess of the actual requirements shall be final, conclusive and binding on the contractor.

CONTRACTOR/TENDERER

ISSUING OFFICER



Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant,  
Ranipet -632 406

**SCHEDULE - C**  
**LIST OF TOOLS AND PLANTS TO BE ISSUED ON HIRE TO CONTRACTOR**

| SL.NO. | QUANTITY | PARTICULARS | HIRE CHARGES |                    | PLACE OF ISSUE | REMARKS |
|--------|----------|-------------|--------------|--------------------|----------------|---------|
|        |          |             | PER UNIT     | PER DAY OF 8 HOURS |                |         |

-NIL -

- Machinery shall not be worked overtime without the written permission of the Engineer-in-charge and cost of liability of the same will be contractors.
- All coolies, waterman etc., required in addition to BHEL crew mentioned in Column 4 above shall be arranged for by the contractor at his own expense.

CONTRACTOR/TENDERER

ISSUING OFFICER



Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant,  
Ranipet –632 406

## SCHEDULE – D

NOTE: All drawings are to be signed by the contractor as well as the officer entering in to contract.

NAME OF WORK: Construction of Type E quarters along with servant qtrs. At BHEL Township.

| SL.NO. | DRAWING NUMBER          | DESCRIPTION                          |
|--------|-------------------------|--------------------------------------|
| 01     | BHE-BAP-C-10-1554       | - General Arrangement of Type E Qrs. |
| 02     | BHE-BAP-C-20-037 Rev.02 | - General arrangement servant Qrs.   |

CONTRACTOR/TENDERER

ISSUING OFFICER



Bharat Heavy Electricals Limited  
 Boiler Auxiliaries Plant,  
 Ranipet –632 406

**AUTHORITY TO TENDER**

Tender Notice No. : Office of the Deputy General Manager,  
 Tender Schedule No. : Bharat heavy Electricals Limited,  
 Ranipet

Item rate tender for works required in BHEL – Township. Messers / Mr.  
 .....of.....  
 are / is hereby authorized to tender for the above work. The tender is to be delivered at the Office  
 of the Dy. General Manager / Civil Factory by .....hours on .....addressed to the Office  
 of the Dy. General Manager (Civil Factory) Bharat Heavy Electricity, Ranipet – 632 406  
 subscribed “tender” for the work of .....

.....  
 . Any correspondence concerning this Tender should be addressed as indicated above quoting  
 the Tender Notice and Schedule Nos. and other relevant particulars.

Bharat Heavy Electricals Limited do not Bind Themselves to Accept the Lowest or any tender.  
 Further Bharat Heavy Electricals Limited reserve the right to reject any or all the Tender Received  
 or Accept any Tender or Part Thereof without Assigning any Reason therefor.

Signature of the Officer,  
 Issuing the documents

CONTRACTOR/TENDERER

ISSUING OFFICER



Bharat Heavy Electricals Limited  
Boiler Auxiliaries Plant,  
Ranipet –632 406

**TENDER**

To.

The Bharat Heavy Electricals Limited,

Boiler Auxiliaries Plant,

Ranipet - 632 406

I/We hereby offer to carry out the work of **Construction of Type – E Quarters along with servant Qtrs – 2 Nos. at BHEL Township.**

I/We have carefully perused the following documents connected with the above noted work and agree to abide by the same.

1. Specifications (General & particular)
2. Drawings.
3. Schedule 'A','B','C','D','E' and Bill of Quantities attached hereto.
4. BHEL General & Special conditions of contract. Tender Notice and Instruction to Tenderers attached hereto.

I/We forward herewith the sum of Rs. ....,as Earnest Money which shall be refunded should this tender be rejected. I/We further agree to deposit such sum which along with the sum of Rs. .... mentioned above shall make up the full Security Deposit for this work as provided for under condition 18 of the Bharat Heavy Electricals Limited, General Conditions of Contract.

I/We further agree to execute all the work referred to in the said documents upon the terms and conditions contained or referred to therein and as detailed in schedule 'A' and Bill of Quantities annexed thereto and to carry out such deviations as may be ordered vide condition 6 of the BHEL General Conditions of Contract up to a maximum of 20% of tendered amount of Rs.33.36 Lakhs.

I/We further agree to refer all disputes, as required by condition 60 of the said General Conditions of Contract, to the Sole Arbitration of an Officer, to be appointed by the General Manager, BHEL, in his sole discretion, whose decision shall be final and binding on both the parties.

Witness:

Signature of the Tenderer,

1.

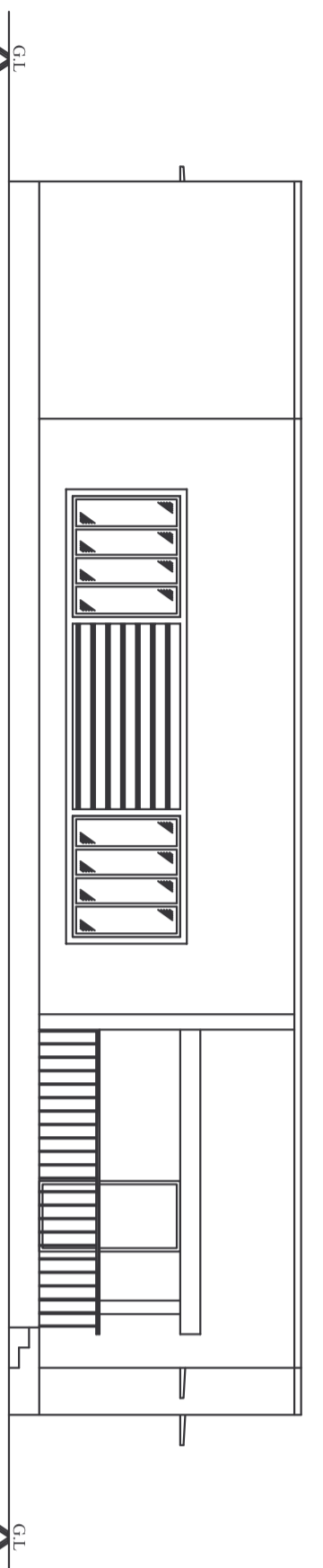
Date:

2.

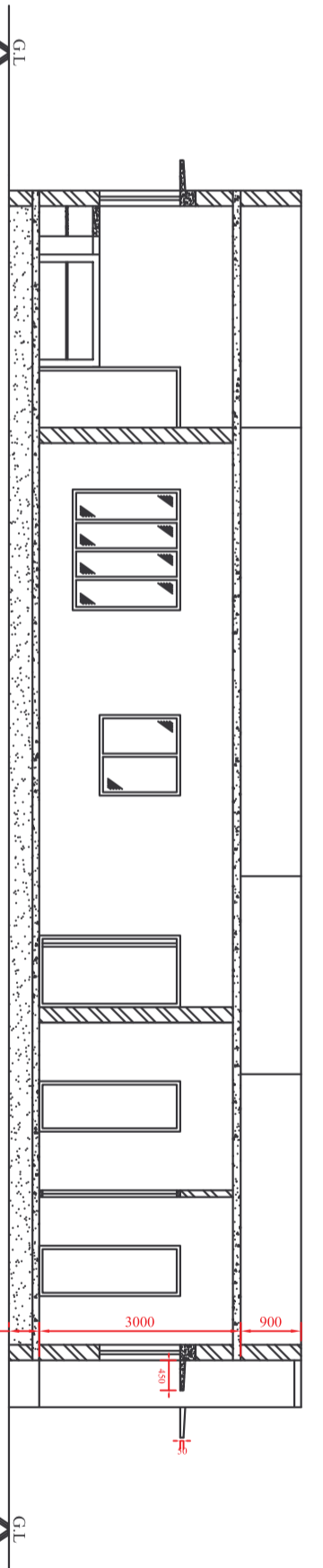
Accepting officer

CONTRACTOR/TENDERER

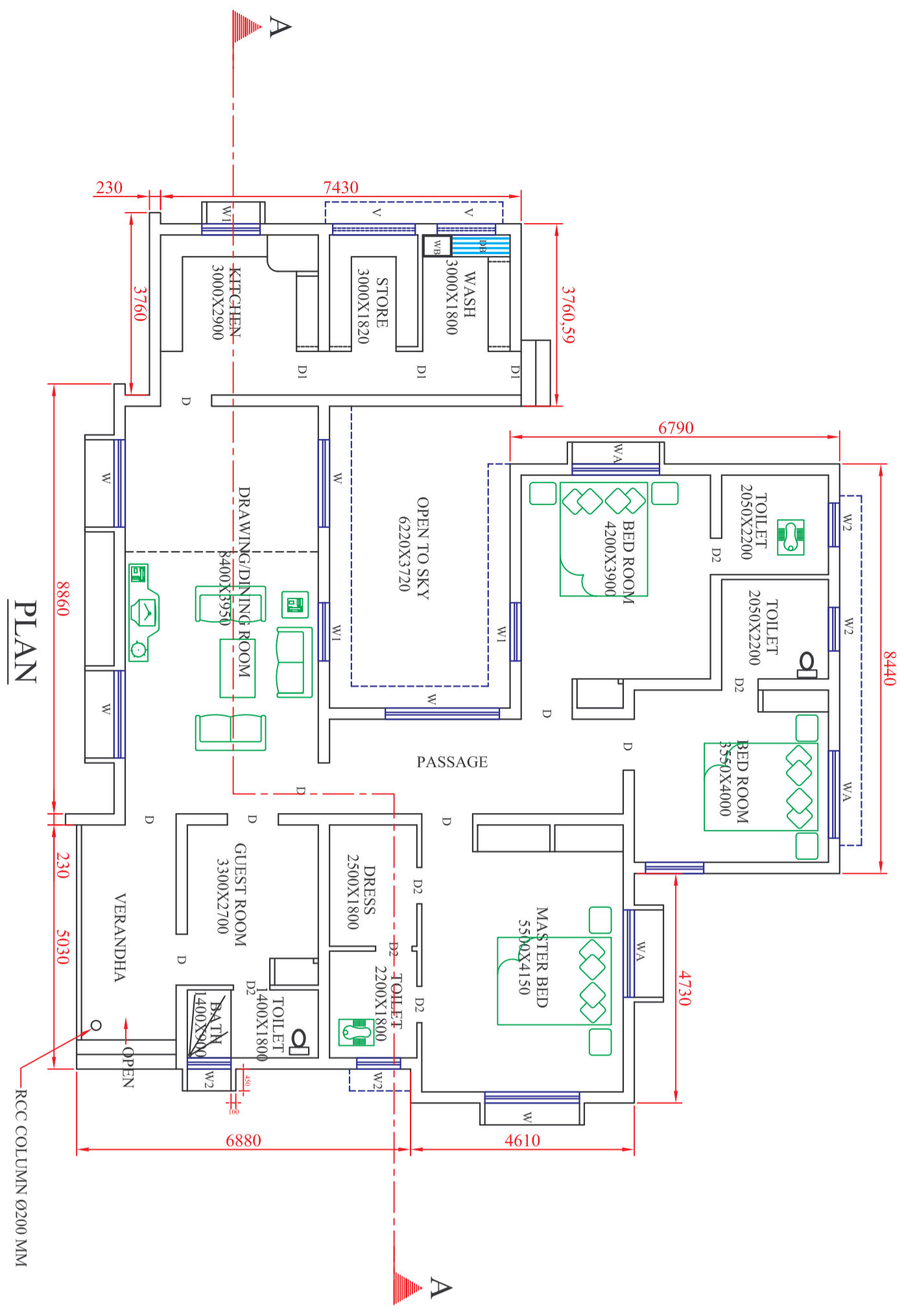
ISSUING OFFICER



ELEVATION



SECTION AA



PLAN

PLINTH AREA=204.33 SQ.F.

RCC COLUMN Q200 MM

SCHEDULE OF JOINERIES:-

|    |                             |           |
|----|-----------------------------|-----------|
| D  | WOODEN PANELED DOOR DS      | 1050X2100 |
| D1 | WOODEN PANELED DOOR SS      | 900X2100  |
| D2 | PVC DOOR                    | 750X2100  |
| W  | WOODEN PARTLY GLAZED WINDOW | 1800X1600 |
| W1 | WOODEN PARTLY GLAZED WINDOW | 1200X1200 |
| W2 | WOODEN PARTLY GLAZED WINDOW | 900X1200  |
| WA | WOODEN PARTLY GLAZED WINDOW | 1800X1200 |
| V  | VENTILATOR                  | 1200X1600 |

NOTES:-

1. ALL DIMENSIONS ARE IN MM.
2. ONLY WRITTEN DIMENSIONS SHOULD BE FOLLOWED.
3. FOR LOCATION OF THIS BUILDING REFER SEPERATE DWG.
4. FOR SERVANTS QUARTERS TO E-TYPE OTRS. REFER DWG NO.BHE-BAP-C-20-
5. CONCRETE SHALL BE OF GRADE M20 AND REINFORCEMENT SHALL BE Fc415.

FOR TENDER PURPOSE ONLY

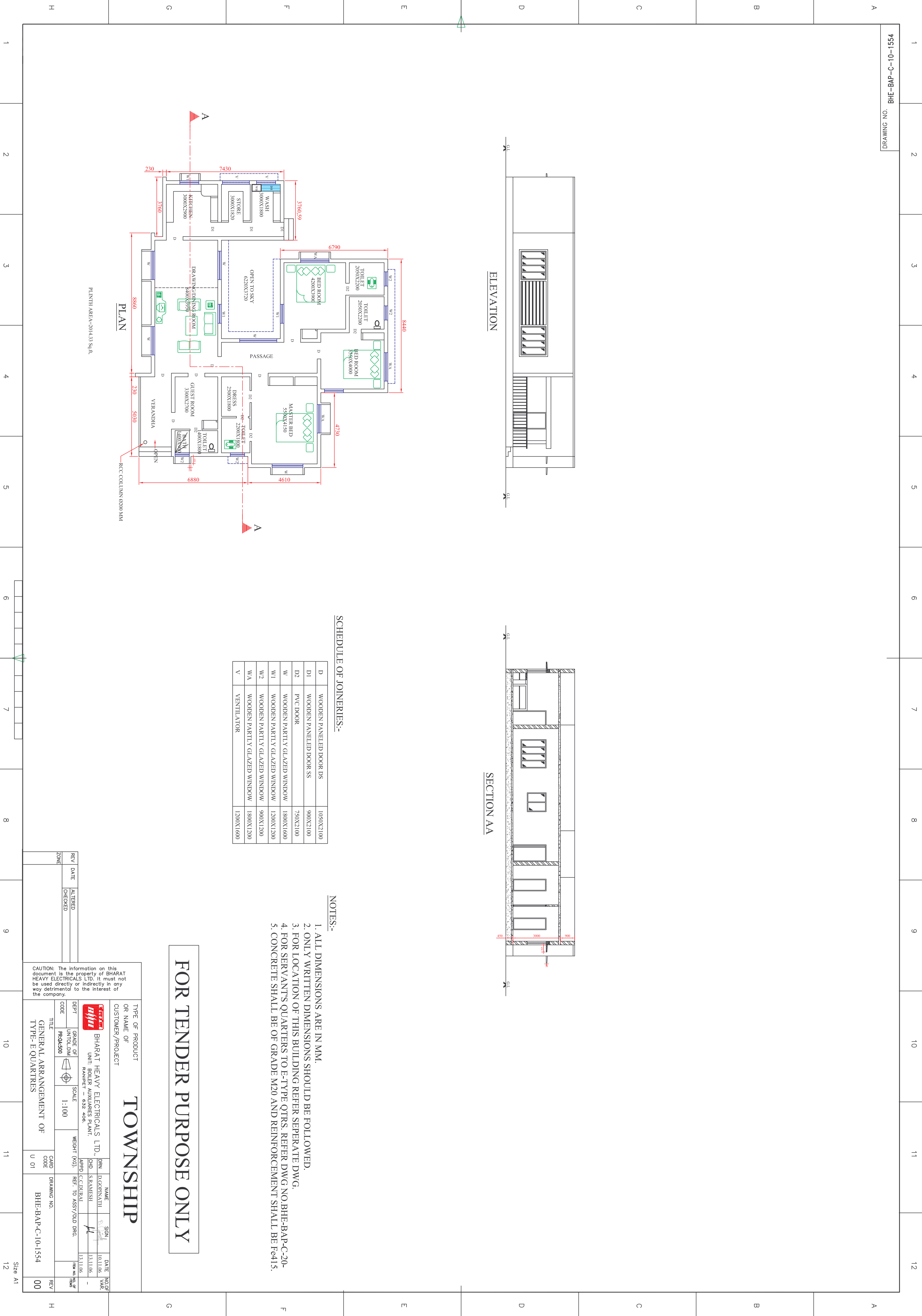
TOWNSHIP

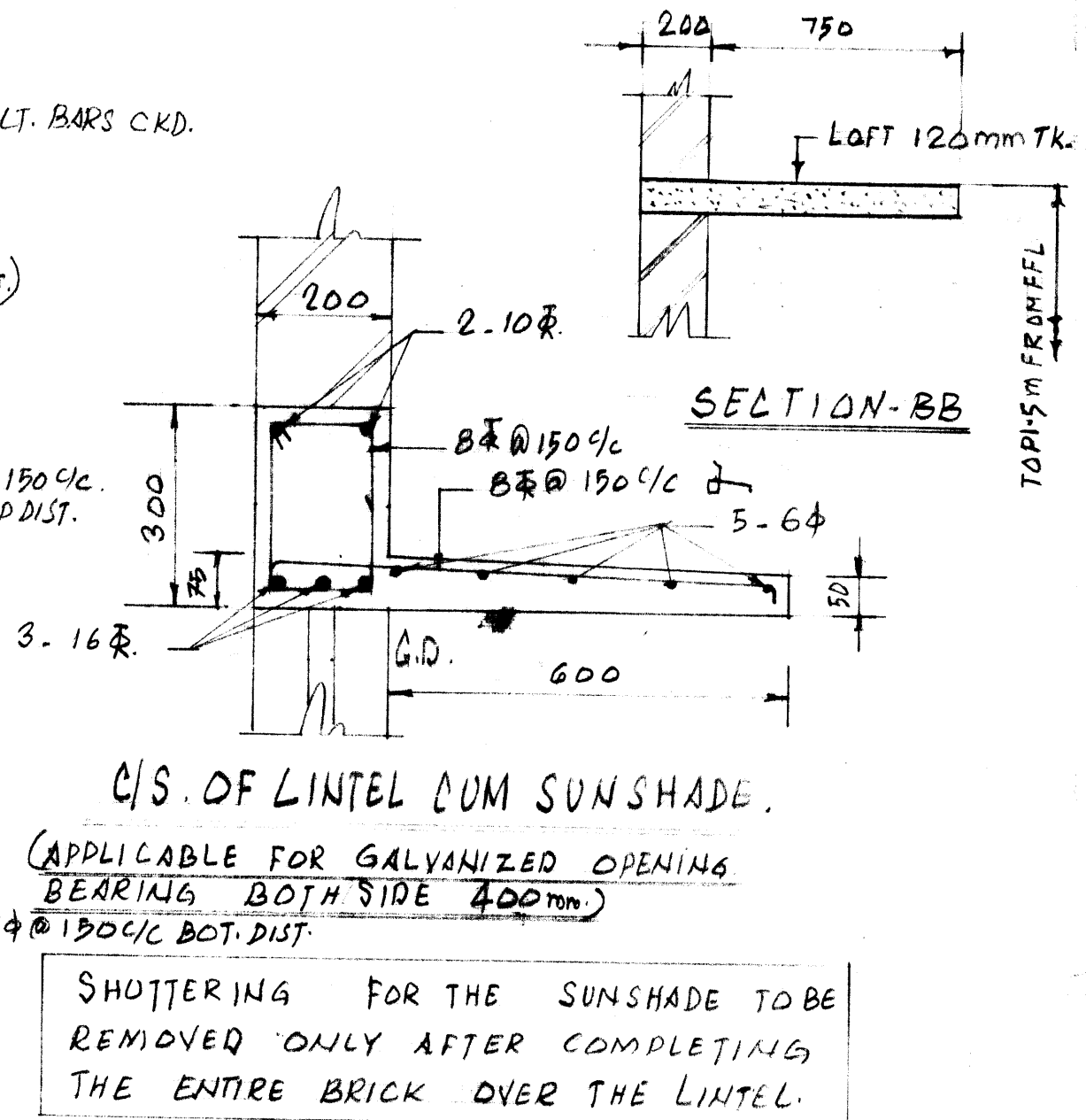
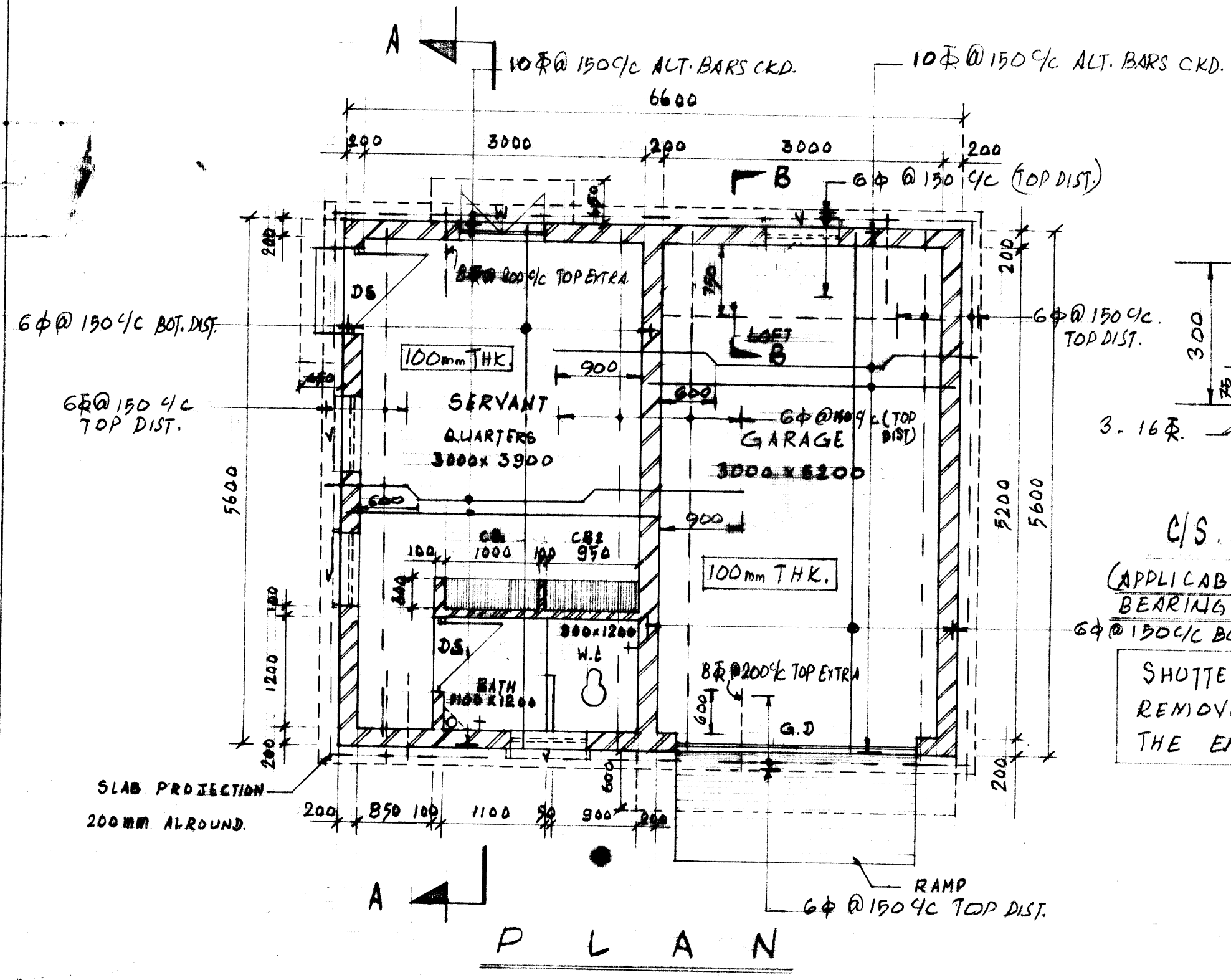
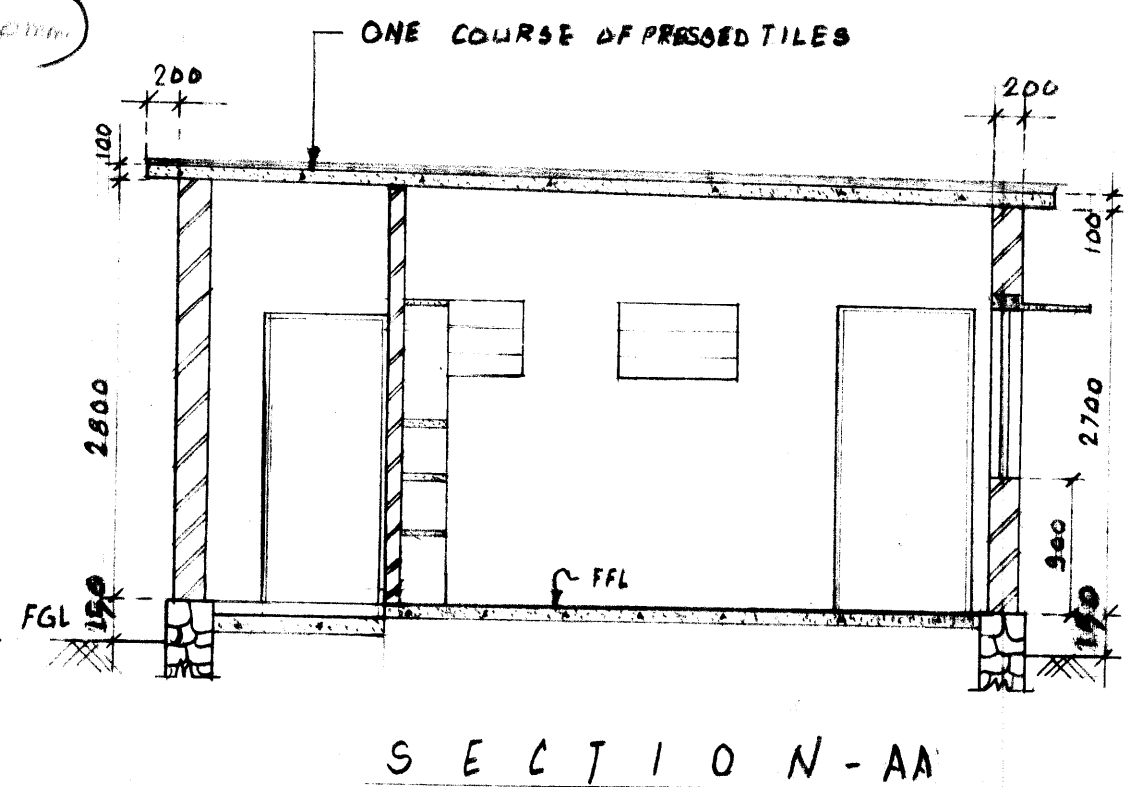
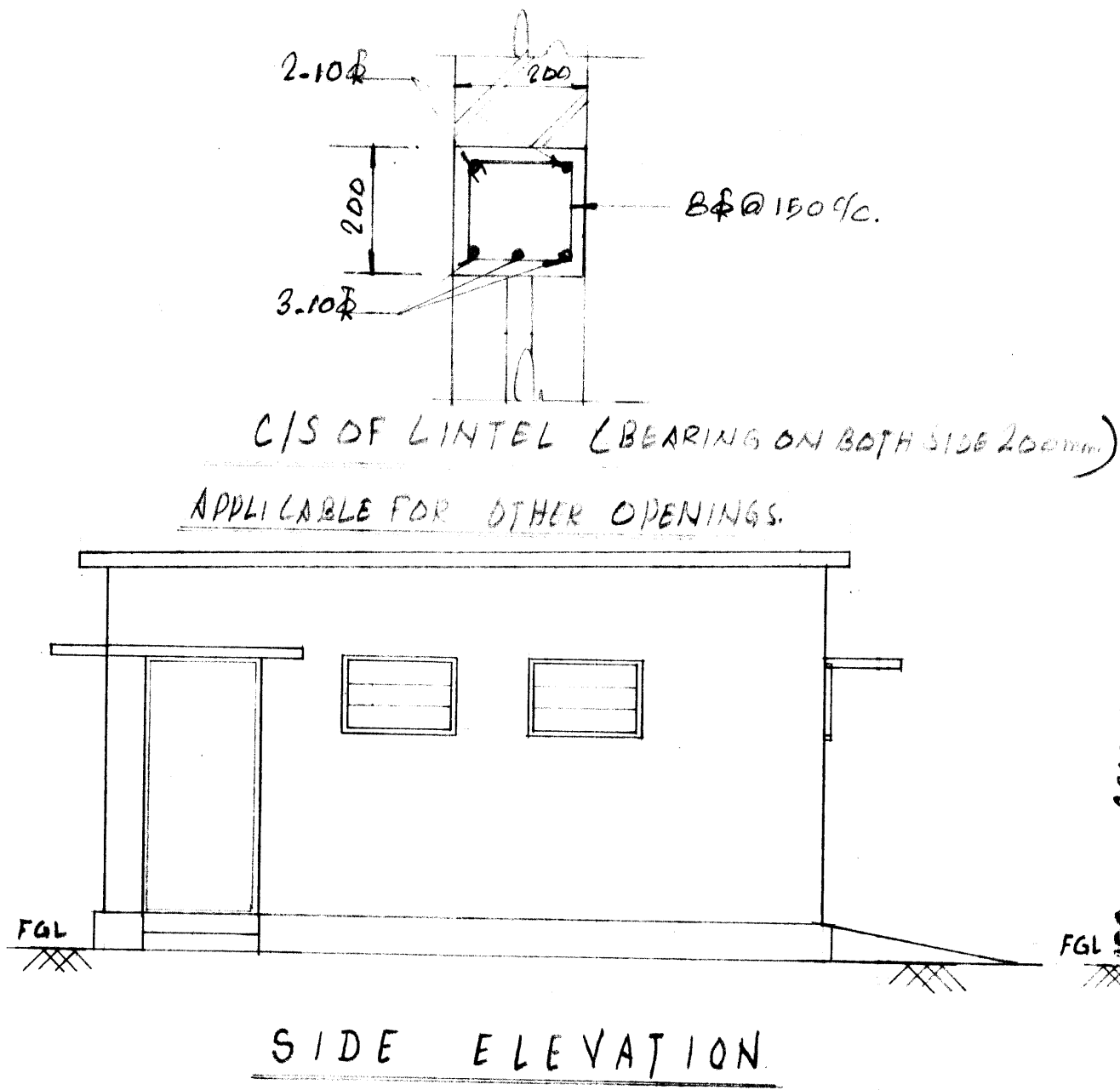
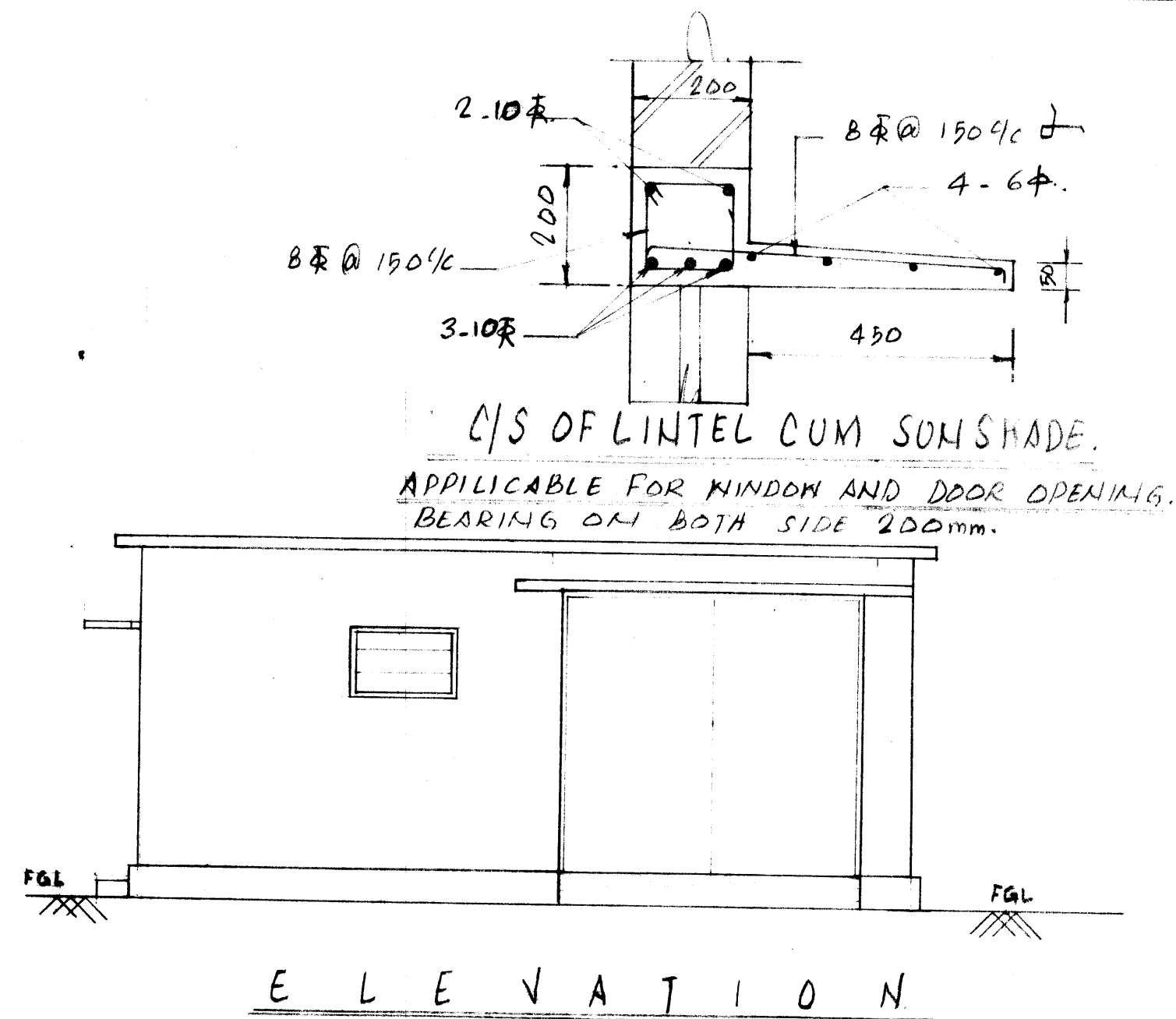
|   |  |   |  |
|---|--|---|--|
| TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT |  | <b>TOWNSHIP</b>                         |  |
| DEPT CODE                                   |  | PRD4500                                 |  |
| SCALE                                       |  | 1:100                                   |  |
| TITLE                                       |  | GENERAL ARRANGEMENT OF TYPE- E QUARTERS |  |
| DRAWING NO.                                 |  | BHE-BAP-C-10-1554                       |  |
| REV   |  | 00                                      |  |

| REV | DATE | ALTERED | CHECKED |
|-----|------|---------|---------|
|     |      |         |         |

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. it must not be used directly or indirectly in any way detrimental to the interest of the company.

|                       |          |        |
|-----------------------|----------|--------|
| NAME                  | DATE     | NO. OF |
| DRG                   | 10.11.06 | VAR.   |
| CHKD                  | 13.11.06 | -      |
| APPRD                 | 13.11.06 | -      |
| REF. TO ASSY/OLD DRG. |          |        |





SCHEDULE:-

|    |                        |         |             |
|----|------------------------|---------|-------------|
| 1. | D6 PANELLED L.W. DOOR  | 9 DS 20 | 875 x 1975  |
| 2. | D6, PANELLED L.W. DOOR | 8 DS 20 | 775 x 1875  |
| 3. | W. FULLY GLAZED WINDOW | 9 WT 11 | 875 x 1075  |
| 4. | V. VENTILATOR          |         | 800 x 500   |
| 5. | G.D. GALVANIZED DOOR   |         | 2600 x 2400 |
| 6. | LB1. CUP BOARD         |         | 1000 x 2000 |
| 7. | LB2. CUP BOARD         |         | 950 x 2000  |

- NOTES:- **RELEASED FOR PHASE IV QUARTERS**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
  2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
  3. THIS DRG. IS TO BE READ IN CONJUNCTION WITH DRG. NO. BHE-BAP-C-10-061.
  4. CONCRETE GRADE SHALL BE OF M150.
  5. CLEAR COVER TO MAIN REINF. SHALL BE AS FOLLOWS. SLAB-15mm.
  6. REINF. SHALL BE OF HIGHYIELD STRENGTH DEFORMED BARS CONFORMING TO IS 1786. 2M.S BARS CONFORMING TO IS 432.

|     |   |         |   |          |                    |   |
|-----|---|---------|---|----------|--------------------|---|
| 02  | IN GARAGE, CUP BOARD REMOVED, LOFT PROVIDED SECTION-BB ADDED. | 19/5/82 | <b>BHARAT HEAVY ELECTRICALS LTD</b><br>BOILER AUXILIARIES PROJECT - RANIPET | DRAWN    | D.V. NATHAN        | <b>SERVANT QUARTERS AND GARAGE</b><br><b>GENERAL ARRANGEMENT.</b> |
|     | ROOF SLAB & LINTELS   |         |   | CHECKED  | <i>[Signature]</i> |   |
|     | REINFORCEMENT MARKED.   | 29-3-82 |   | APPROVED | <i>[Signature]</i> |   |
|     |   |         |   | DATE     | 9-12-81            |   |
| REV | DESCRIPTION   | DATE    | SIGN.   | SCALE    | 1:50               | DRG. NO: BHE-BAP-C-20-037   |
|     |   |         |   |          |                    | REV. NO. 02   |

GENERAL CONDITIONS OF CONTRACT  
FOR  
LUMP SUM, ITEM RATE AND  
PERCENTAGE CONTRACT

SPECIMEN

civ 02

GCC



**Bharat Heavy Electricals Limited**  
BOILER AUXILIARIES PLANT  
RANIPET - 632406

**GENERAL CONDITIONS OF CONTRACT  
FOR  
LUMP SUM, ITEM RATE AND  
PERCENTAGE CONTRACT**



**Bharat Heavy Electricals Limited**

**BOILER AUXILIARIES PLANT  
RANIPET - 632 406.**

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## CHAPTER - I

### DEFINITIONS IN THE CONTRACT AS HEREINAFTER DEFINED

The following terms shall have the meanings hereby assigned to them, except here the context otherwise requires :-

- a. **'CONTRACT'** means and includes the conditions of contract, the documents forming the tender and acceptance, thereof, specifications, drawings, bill of quantities, schedule of rates and prices if any, general and special conditions of contract, schedules A,B,C,D and or general summary attached to the form of tender and contract agreements. All these terms and conditions and documents as applicable taken together shall be deemed to form one contract and thereby complementary to one another.
- b. **'TENDER DOCUMENTS'** means and includes the form of tender, the applicable schedules A, B, C, D and / or general summary, general and special conditions of contract and specifications and drawings as given to the contractors on payment.
- c. **'THE CONTRACTOR'** means the person or persons, firm or company whether incorporated or not, whose tender is being accepted and includes the contractor's legal / personal representatives, successors and permitted assignees.
- d. **'THE WORK'** means the work described in the tender documents and / or individual work orders, drawings and specifications as may be issued from time to time to the contractor by the Engineer - In - Charge within the powers conferred upon them including modified or additional works and obligations to be carried out either at the site or at any factory, workshop or any other place as required for the performance of the contract.
- e. **'THE SITE'** means the lands and other places on, under, in or through which the work has to be executed under the contract and any other lands and places provided by the company for the purpose of carrying out the contract.
- f. **'THE COMPANY'** referred to as BHEL in this contract shall mean M/s. Bharat Heavy Electricals Limited including its Board of Directors, Director, Executive Director, Group General Manager, General manager, Dy. General Manager and / or the Officers of the company including Sr. Manager, Manager, Dy. Manager, Sr. Engineer and Engineer authorised on behalf of Bharat Heavy Electricals Limited, Boiler Auxiliaries Plant, Ranipet.
- g. **'THE ACCEPTING OFFICER'** means the official who signs the contract agreement on behalf of Bharat Heavy Electricals Limited and includes his successors.
- h. **'ENGINEER-IN-CHARGE'** means the Officer / Engineer of BHEL who is in charge of works under the contract and includes such other Officer / Engineer as may be notified by BHEL from time to time.
- i. **'APPROVED AND DIRECTED'** means approval and / or directions of the Officers / Engineers of BHEL issued from time to time with regard to the contract.

- j. In the case of Lump-sum Contracts '**CONTRACTOR'S PERCENTAGE**' means the percentage offered by the Contractor as addition to our deduction from the cost of building, or other works listed in Schedule "A" to provide a Lump-sum quotation for performance of the contract inclusive of all extra costs, profit, establishment charges, carriage, insurance etc., complete.
- In the case of percentage Rate "Contracts Contractor's Percentage" shall, if the context so permits mean the uniform percentage tendered by the Contractor and accepted by the Accepting Officer; and the expression '**CONTRACT RATE**' shall likewise mean the rates in the BHEL Schedule of Rate applicable as on date as adjusted by the said Contractor's percentage, if any.
- k. '**THE CONTRACT SUM**' means the sum accepted or the sum calculated in accordance with the prices accepted in the tender and / or the contract rates as payable to the contractor for the execution and full completion of the work.
- l. The '**FINAL SUM**' means the actual amount payable under the Contract by BHEL, to the Contractor for the entire Execution and full completion of the work.
- m. The '**DATE OF COMPLETION**' is the date or dates for completion of the whole or any part of the work as the case may be set out in or ascertained in accordance with the individual work orders of the tender documents, or any subsequent agreed amendments thereto.
- n. A '**WEEK**' means seven days without regard to the number of hours worked or not in any day in that week.
- o. A '**DAY**' means a day of 24 (Twenty Four) hours irrespective of the number of hours worked or not in that day.
- p. A '**WORKING DAY**' means any day other than the holidays declared by BHEL, Ranipet.
- q. '**DEVIATION ORDER**' means an order given by the Engineer-in-Charge to effect an alternation addition or deduction which does not radically affect the scope or nature of the contract.
- r. '**EMERGENCY WORKS**' means any urgent measures which in the opinion of the Engineer-In-Charge, become necessary during the progress of the work to obviate any risk of accident or failure which become necessary for security.
- s. '**PROVISIONAL SUM**' or "Provisional Lump-sum" means a Lump-sum included by the BHEL in the tender documents and represents the estimated value of work for which details are not available at the time of inviting the tender.
- t. '**PROVISIONAL ITEMS**' means items for which approximate quantities have been included in the tender documents.
- u. '**DAY WORK**' means an item of work requiring the employment of labour with or without materials as the case may be which in the opinion of the Engineer-in-charge, is not capable of being evaluated by the accepted methods of measurement or assessment and is paid for on the basis of the actual labour and materials utilised on the particular item of work referred to.

- v. Heading of these terms and conditions shall not affect the interpretation or construction thereof.
- w. The '**DATE OF CONTRACT**' shall mean the date / dates on which the parties to the contract have signed the contract agreement.
- x. **MAINTENANCE PERIOD / GUARANTEE PERIOD** shall mean the period during which the contractor shall remain liable for satisfactory performance of the work under the contract, repair or replacement of any part of the work performed under the contract.
- y. '**COST**' shall mean and include any liability, expenditure, overhead costs whether on the site or off the site incurred by BHEL.

The contractor shall be deemed to have carefully examined all the documents to his satisfaction. If he shall have no doubt as to the manner of the contract document, he shall obtain the details/clarification from BHEL before signing the contract.

#### **MANNER OF EXECUTION OF CONTRACT**

The contract shall be deemed to have come into force from the date of Letter of Intent unless otherwise provide in the Letter of Intent. Unless and until the contract agreement is executed, the Letter of Intent read in conjunction with the tender documents will constitute a binding contract.

**CONTRACTOR / TENDER**

**ACCEPTING OFFICER**

## CHAPTER - II

### SCOPE OF CONTRACT

#### 2. Heading to the Contract

The heading to these conditions shall not affect the interpretation thereof.

#### 3. Contract Documents

The Accepting Officer shall furnish to the Contractor on demand "FREE OF COST" three copies of signed Drawings and one copy of the signed agreement comprising of preamble to agreement, General and Special Specification, Schedule A,B,C & D etc., (but excluding General Conditions of Contract and Drawings) and three copies of all further drawing issued the progress of work.

However, for any additional copies of the agreement of drawings required by the Contractor, the same will be supplied on payment of the Specified cost.

The Contractor shall keep one copy of all the Drawings and of the Specifications on the site and the Engineer-in-Charge or his representative shall be at all reasonable times have access to them.

None of these documents shall be used by the contractor for any purpose other than that of this contract.

#### 3a. Secrecy

The Contractor shall take necessary steps to ensure that all persons employed on any work in connection with this contract have noted that the Indian Officials Secrets Act 1923 (XIX of 1923) applies to them and shall continue so to apply even after the execution of such work under the contract.

All classified documents furnished to the contractor shall be returned to the Engineer-in-charge on the completion of works or the earlier determination of the Contract.

#### 4. Works to be Carried Out

The Contract shall, except as provided under Schedules "B" and "C" included all labour materials, tools, plant, equipment, and transport which may be required in preparation for and in the entire execution and full completion of the work. Schedule "A" shall be deemed to have been prepared in accordance with good practice and recognised principles and unless otherwise stated, the descriptions given therein shall be held to include waste on materials carriage and cartage, lead, hoisting, setting, fitting in position and all other labour necessary in and for the entire execution and full completion aforesaid. Any error in description or quantity in Schedule "A" or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the work comprised therein according to the Drawings and Specifications, or from any of his obligations under the Contract.

The insertion of the name of any firm of suppliers in the Tender Documents is for the purpose of obtaining a particular class or quality of materials or workmanship but the articles or materials specified may be obtained from any other firm subject to prior written approval of the Engineer-in-Charge.

In the case of a discrepancy between Schedule "A" the specification and / or the Drawings, the Accepting Officer shall be the sole deciding authority as to which shall prevail and his decision shall be final and conclusive. If neither Drawings nor specifications contain any mention of minor details of construction, which is in the opinion of the Accepting Officer, whose decision shall be final and conclusive, are reasonable and obviously and fairly intended for the satisfactory completion of the work, such details shall be provided by the Contractor without any extra cost as if they were specially mentioned and shall be deemed to be included in the contract.

The Contractor will be deemed to have satisfied himself as to the nature of the site, local facilities of access and all matters affecting the execution and completion of the work. No extra charges consequent on any mis-understanding in these respects or otherwise will be allowed.

#### **5. Provisional Items**

The full amount of provisional Lump-sums and the value annexed to each provisional item inserted in the Tender Documents shall be deducted from the contract sum and the value of work ordered and executed there under shall be ascertained by measurement or valuation as for deviations.

No work under these items is to be begun without instructions in writing from the Engineer-in-charge.

The extent of quantities or items described as "Provisional" shall not be held to guarantee or limit the amount and description of the work to be executed by the Contractor either in respect of the items concerned or the work as a whole.

No addition or deduction shall be made by the Contractor to the amount of the provisional Lump-sum as included in the tender documents.

#### **6. Deviations**

The contractor shall not make any alteration in addition to or omission from the work as described in the tender documents except in pursuance of the written instructions of the Engineer-in-charge. No such deviation from the work described in the tender documents shall be valid unless the same has been specifically confirmed and accepted by the Accepting Officer in writing and incorporated in the contract.

The Accepting Officer may deviate either by way of addition or deduction, from the work so described, provided that the contract sum be not thereby varied on the whole by more than percentage set out in the tender documents. The value of all additions and deductions will be added to or, deducted from the contract sum, when ever the Accepting Officer intends to exercise such a right, his intentions shall specify the deviations which are to be made, the Lump-sum assessment or the proposed basis of payment, the extra time allowed, if any, and the date for completion of the entire contract.

Any objection by the Contractor to any matter concerning the order shall be notified by him in writing to the Engineer-in-charge within seven days from the date of such order, but under no circumstances shall the work be stopped (unless so ordered by the Engineer-in-charge) owing to differences or controversy that may arise from such an objection. In the absence such notification of objection by the contractor, he will be deemed to have accepted the order and the conditions stated therein. In the event of the contractor failing to agree with the Engineer-in-charge regarding the terms of the proposed deviation, the objection shall be referred to the Head of Civil Engineering Department whose decision shall be final, conclusive and binding on the contractor.

## **7. Time**

Time is the essence of the contract and is specified in the tender documents or in each individual Work Order.

As soon as possible after the contract is let or any substantial Work Order is placed and before work order is to begin, the Engineer-in-charge and the Contractor shall agree to a Time and progress Chart. The Chart shall be prepared in direct relation to the time stated in the tender documents or the Work Order for the completion of the individual items there of and the contract or order as a whole. It shall indicate the fore cast of the dates for the commencement of the various trade processes or sequence of the work, and shall be amended as may be required by agreement between the Engineer-in-charge and the Contractor within the limitation of the time imposed in the tender, document or order.

In the absence of any specific Time and Progress chart to be agreed to between the Contractor and Engineer-in-charge the contractor shall ensure and maintain uninterrupted progress of the work such that the entire work shall be completed within the time imposed in the Tender documents or Order and that the proportion of the work completed upto any time in relation to the entire work to be under the Contract or Order shall not be less than the proportion that the time elapsed bears to the total time of completion provided in the Tender documents or Order.

The Contractor shall suspend the execution of the work, or any part or parts thereof whenever call upon in writing by the Engineer-in-charge to do so, and shall not resume work there on until so directed in writing by the Engineer-in-charge. The Contractor will be allowed an extension of time for completion not less than the period of suspension. However, no other claim in this respect for compensation or otherwise however will be admitted. Provided the cause for suspension is not attributable to any default of the contractor's part to proceed with or fulfil the contractual obligations. This may also be extended to allow for alteration of work made by the deviation order.

## **8. Stores and Materials**

### **8.1 Materials to be supplied by the Contractor**

The Contractor shall at his own cost and expense provide all materials required for the work other than those listed in Schedule-B which are to be supplied by Bharat Heavy Electricals Ltd.

All materials to be provided by the Contractor shall be brand new and in conformity with the specifications laid down in the contract and the Contractor shall if requested by the Engineer-in-charge furnish proof, to the satisfaction of the Engineer-in-charge, that the materials so comply.

The Contractor shall at his own cost and expense and without delay, supply to the Engineer-in-charge samples of materials proposed to be used in the works. The Engineer-in-charge shall within seven days of supply of samples or within such further period as he may require and intimate to the Contractor in writing, inform the Contractor whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-charge for his approval fresh samples complying with the specification laid down in the contract.

The Engineer-in-charge shall have full powers to require removal of any or all of the materials brought to site by the Contractor which are not brand new and not in accordance with the contract specifications or do not conform in character or quality to samples approved by him. In case of default on the part of the Contractor in removing rejected materials, the Engineer-in-charge shall be at liberty to have them removed by other means at the Contractor's expense and risk. The Engineer-in-charge shall have full power to require other proper materials to be substituted for rejected materials and in the event of the contractor refusing to comply, he may cause the same to be procured by other means. All costs charges and expenses which may attend such substitution shall be borne by the contractor. All charges on account of Octroi, terminal or sales tax and other duties on material obtained for the works from any source (excluding materials supplied by BHEL) shall be borne by the Contractor.

The Engineer-in-charge shall be entitled to have tests carried out as specified in the Contract for any materials supplied by the Contractor other than those for which, as stated above, satisfactory proof has already been furnished, at the cost of the Contractor and the Contractor shall provide at his expense all facilities which the Engineer-in-charge may require for the purpose.

## **8.2 Materials to be supplied by BHEL**

Materials which BHEL are prepared to supply are shown in Schedule-B which also stipulates place of issue and rate(s) to be charged in respect thereof soon after acceptance of the tender the Contractor shall agree in writing with the Engineer-in-charge on a phased programme of his requirements with regard to deliver of materials.

In the event of delay in supply of any Stores and materials mention in Schedule-B the contractor shall be entitled to reasonable extension of time as provided for under condition-9 but no claim for compensation or damage on any ground whatsoever shall be entertained by BHEL.

For the materials listed in Schedule-B the contractor shall give a reasonable notice in writing of his requirement to the Engineer-in-charge in accordance with the phased programme.

All materials issued to the Contractor by BHEL for incorporation or fixing in the works shall on completion or on fore-closure of the works and before submission of bills, be returned by the Contractor at his expense, at the place of issue, after making due allowance for actual consumption reasonable wear and tear and for waste. In the Contractor is required to deliver such materials at a place other than the place less the transportation charges which would have been incurred by the Contractor had such materials been delivered at the place of issue, shall be borne by BHEL.

The Contractor shall bear the cost of loading, transporting to site, unloading storing under covered area as necessary, assembling and joining the several parts together as necessary and incorporating or fixing materials in the work including all preparatory work of whatever description as may be required, and of closing preparing, loading and returning empty cases or containers to the place of issue.

If, in the opinion of the Engineer-in-charge (which shall be final and conclusive) any stores supplied by BHEL have either during currency of the work or after completion of the work whilst under custody, of the contractor, become damaged to such an extent that they cannot be usefully utilised, either in the same work or in other works, the Engineer-in-charge shall not accept the stores and in the rates specified in the contract. The contractor shall not be entitled to any claim whatsoever on this account.

The Engineer-in-charge shall have access to the stores where materials issued by BHEL as per schedule -B of the contract is stored to ensure the balance stock of material on hand after taking into consideration the materials used on the work is as per the issue and usage. If there be any discrepancy, the cost towards the same will be recovered at the double recovery rate indicated for the material concerned. This is without prejudice to and in addition to the overall reconciliation of materials to be made at the completion of work.

If on completion of works, the Contractor fails to return surplus materials out of those supplies by BHEL then, in addition to any other liability which the Contractor would incur, the Engineer-in-charge may, be written notice to the Contractor, require him to pay within a fortnight of receipt of the notice for such un-returned surplus materials given in sub para-4.

The Contractor shall have to build a weather-proof shed <sup>for</sup> or the storage of Cement (required for 15 days consumption of the work).

### 8.3 General

Materials required for the works, whether brought by the Contractor or supplied by BHEL shall be stored by the Contractor only at places approved by the Engineer-in-charge. Storage and safe custody of materials shall be at the risk and the responsibility of the Contractor.

Officials concerned with contract shall be entitled at any time to inspect and examine any materials intended to be used in or in the works either on the site or at factory or workshop or other places where such materials are assembled, fabricated or manufactured or at any place(s) where these are lying or from which these are being obtained and the Contractor shall give such facilities as may be required for such inspection and examination.

All materials brought to the site shall not be removed off the site without the prior written approval of the Engineer-in-charge. But whenever the works are finally completed and advance if any, in respect of any such materials is fully recovered the Contractor shall at his own expense forthwith remove from the site all surplus materials originally supplied by him and upon such removal the same shall revert in and become the property of the Contractor.

Should the Engineer-in-charge consider at any time during the construction or re-construction prior to the expiry of the MAINTENANCE PERIOD that the stores or materials provided by the Contractor are unsound or of a quality inferior to that contracted for or otherwise not in accordance with Contract (in respect where of the decision of the Engineer-in-charge shall be final and conclusive) the Contractor shall on demand in writing from the Engineer-in-charge specifying the Stores or materials complained of notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith remove the Stores or materials so specified and provide other proper and suitable stores or materials at his own expense, to the entire satisfaction of the Engineer-in-charge and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in his demand aforesaid the Engineer-in-charge may replace with others the Stores or materials complained of at the risk and expense in all respects of the Contractor. The liability of the Contractor under this condition shall not extend beyond the maintenance period aforesaid except as regards Stores or materials which the Engineer-in-charge shall have previously given notice of to be Contractor to replace.

#### **9. Delay and Extension of Time**

If, in the opinion of Engineer-in-charge the work is delayed :

- i) by reason of abnormally bad weather, OR
- ii) by reason of serious loss or damage by fire OR
- iii) by reason of Civil commotion local combination of workmen, strike or lockout, affecting any of the trades employed on the work, OR
- iv) by delay on the part of the agency or tradesman engaged by BHEL in executing work not forming part of this Contract OR
- v) by reason of any other cause which in the absolute discretion of the Engineer-in-charge is (when he is the Accepting Officer of the Contract), beyond the Contractor's reasonable control, then in such cases the Accepting Officer, on the recommendation of the Engineer-in-charge or higher authority may make fair and reasonable extension in the completion dates of the individual items of work of the Contract as a whole. Such extension which will be communicated to the Contractor by the Engineer-in-charge in writing shall be final and binding on the Contractor. No other claim in this respect for compensation or otherwise howsoever is admissible. Upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-charge but shall nevertheless use constantly his best endeavour to prevent or make good the delay and shall do all that may reasonably be required to the satisfaction of the Engineer-in-charge to proceed with the work.

#### **10. Patent Rights**

The Contractor shall fully indemnify BHEL or the agent, servant, employee of BHEL against any action, claim or proceeding relating to infringement or the use of any patent or design or any alleged patent or design rights, and shall pay any royalties which may be payable in respect of any article / or part thereof included in the Contractor. In the event of any claim, being made or action brought against BHEL or any agent, or servant or employee of BHEL in respect of the matters aforesaid, the Contractor shall immediately be notified thereof for taking necessary action provided that payment of indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by the BHEL but the Contractors shall pay any royalties payable in respect of any such use.

#### **11. Octroi and Other Duties**

All changes on account of Octroi, Terminal or Sales Tax and / or other duties on materials obtained for the Work (excluding materials provided by BHEL on payment) shall be borne by the Contractor.

#### **12. Royalties**

Royalties fixed from time to time as per prevalent local rules will be recovered for materials, which the Contractor may be allowed to remove from quarries situated on land which is in charge of the BHEL authorities.

#### **13. Plant and Equipment**

The Contractor, shall at his own expense, supply all tools, plant and equipment (here-in-after referred to as T & P) required for the execution of the contract other than those listed in Schedule - C which subject to their availability may be hired by BHEL to the Contractor or issued free for use in the execution of the work, as specified in Tender documents.

#### **14. Assignments or Transfer of Contract**

The Contractor shall not without the prior written approval of the Accepting Officer assign or transfer the Contract or any part thereof, or any share, or interest there in to any other person. No sum of money which may become payable under the Contract shall be payable to any person other than the Contractor unless the prior written approval of the Accepting Officer to the assignment or transfer of such money is given.

#### **14 (a) Sub - Contract**

The Contractor shall not sub-let any portion of the Contract without the prior written approval of the Accepting Officer.

**15. Compliance to the Regulations and Bye - Laws**

The Contractor shall conform to the provision of any statute relating to the work and regulations and bye-laws of any local authority and of any water and lighting Companies or Undertakings with whose system the work is proposed to be connected. He shall, before making any variation from the drawings or the specifications that may be necessitated for such connections give the Engineer-in-charge notice, specifying the variation proposed to be made and the reasons there for and shall not carryout any such variation until he has received instructions from the Engineer-in-charge in respect thereof. The Contractor shall be bound to give all notice required by Statute Regulations of Bye-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.

**16. BLANK**

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## CHAPTER – III

### PERFORMANCE OF THE CONTRACT

#### 18. Security Deposit

18.1.1 Security Deposit should be collected from the successful tenderer. The rate of Security Deposit will be as below:

|                                      |  |
|--------------------------------------|--|
| Upto Rs. 10 lakhs                    | 10%  |
| Above Rs. 10 lakhs up to Rs.50 lakhs | 1 lakh+7.5% of the amount<br>Exceeding Rs. 10 lakhs.     |
| Above Rs. 50 lakhs                   | Rs.4 lakhs + 5% of the amount<br>Exceeding Rs. 50 lakhs. |

The security Deposit should be collected before start of the work by the contractor.

18.1.2 Security Deposit may be furnished in any one of the following:

- i) Pay Order, Demand Draft in favour of BHEL.
- ii) Local cheques of scheduled banks, subject to realization.
- iii) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc.  
(Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- iv) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act subject to a maximum of 50% of the total security deposit value. The balance 50% has to be remitted either by cash or in the other form of security. The Bank Guarantee format should have the approval of BHEL.
- v) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vi) Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be collected before start of the work and the balance 50% may be recovered from the running bills.
- vii) EMD of the successful tenderer shall be converted and adjusted against the security deposit.
- viii) The security deposit shall not carry any interest.

**NOTE:** Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

**CONTRACTOR**

- 18.1.3** Security deposit shall not be refunded to the contractor except in accordance with the terms of the contract.
- 18.1.4** All compensation or other sums of money payable by the contractor to BHEL, under the terms of this contract or under any other contract with BHEL, may be deducted from the security deposit or realized by the sale of the securities or from the interest arising there from or from any sums which may be due or may become due to the contractor payable by BHEL on any account whatsoever against this contract or any other contract with BHEL, and in the event of his security deposit being reduced by reason of such deduction or sale as aforesaid, the contractor shall within seven days thereafter make good in cash or in securities endorsed as aforesaid, any sum or sums by which the security deposit has been so reduced.
- 18.1.5** 50% of the security deposit may be refunded on completion of the work after payment of the final bill and the balance 50% of the security deposit is refundable only after the expiry of the maintenance period of six (6) months from date of completion of work as stipulated in the contract concerned.

## **19. Orders under the Contract**

All orders, notices, etc., to be given under the contract shall be in writing, typescript or printed and if sent by registered post to the address given in the tender of the Contractor, shall be deemed to have been served on the date when in the ordinary course they would have been delivered to him.

The Contractor shall carry out without delay all orders given to him.

## **20. Admission to Site**

The contractor shall not enter on (other than for inspection purposes) or take possession of the site unless permitted to do so by the Engineer-in-charge. The portions of the site to be occupied by the Contractor will be clearly defined and marked on the site plan, and the contractor will on account be allowed to extend his operations beyond these areas. The Contractor shall provide if necessary or required at the site, temporary access there to and shall alter, modify and maintain the same as required from time to time. He shall out and clear away the access route when no longer required restoring the area to its original condition.

The Engineer-in-charge shall have power to execute other works (whether or not connected with the work, in the contract agreement) on the site contemporaneously with the execution of the original work and contractor shall give reasonable facilities for this purpose.

BHEL reserves the right of taking over, at any time, any portion of the site which they may require and the contractor shall at his own expense clear such portion forthwith. No photographs of the site or of the work or any part here of shall be taken published or otherwise circulated without the prior approval of the Engineer-in-charge.

No such approval shall ~~however~~ <sup>however</sup> exempt the Contractor from complying with any statutory provision in regard to the taking and publication of such photographs.

BHEL Officials connected with the Contract shall have the right of entry to the site at all times.

Engineer-in-charge shall have the power to exclude from the site any person whose admission there to may, in his opinion be undesirable for any reason whatsoever

The Contract shall be governed by the security regulations of BHEL including the entry exit timings, use of roads as may be in force from time to time. The Contractor should follow these regulations strictly and no claims for any additional payment whatsoever will be entertained under by circumstances.

## 21. Contractors Supervision

The Contractors shall either himself supervise the execution of the Contractor or shall appoint a competent Agent approved by the Engineer-in-charge to act in his stead. The Contractor shall employ an Engineer/Agent having atleast a Degree of Bachelor of Civil Engineer from a recognised University/on any work with a Contract value exceeding rupees two lakhs, and having atleast a Diploma in civil Engineering from a recognised college, on work with a contract value exceeding Rs. 50,000/- but not exceeding rupees two lakhs.

The Employment of an Engineer/Agent as aforesaid shall not be necessary if the Contractor himself is in possession of a recognised technical qualification and is, in opinion of the Engineer-in-charge, capable of the receiving instructions of the Engineer-in-charge and of the executing the work to the satisfaction of the Engineer-in-charge. If the Contractor fails to appoint a suitable Engineer/Agent as aforesaid, the Engineer-in-charge shall have full powers to suspend the execution of work and stop payment of any advances that may have become due until such date as a suitable Engineer/Agent is appointed and the Contractor shall be held responsible for the delay caused to the work and no extension of time on this account shall be given to him as stipulated in condition (9) above.

Orders given to the Contractor's Agent Engineer shall be considered to have the same force as if they had been given contractor himself.

The Contractor or his Agent shall be in attendance at the site during all working hours and shall superintend the executing of work with such additional assistance in each trade as the Engineer-in-charge may consider necessary.

The Contractor or his accredited agent shall attend when required and without making any claim for doing so, either the Office of the Engineer-in-charge or the work site to receive instructions.

The Engineer-in-charge shall have full powers, and without assigning any reason to require the Contractor immediately to cease to employ in connection with the

Contract any Agent, servant or employee whose continued employment is, in his opinion undesirable

The contractor shall not be allowed any compensation on this account.

## **22. Labour**

The contractor shall employ labour in sufficient number either directly or through sub-contractors to maintain the required rate of progress and of quality ensure workmanship of the degree specified in the contract and to the satisfaction of the Engineer-in-charge. The contractor shall comply with all labour laws in force from time to time.

## **23. Safety Rules**

The Contractor shall comply with all safety rules of BHEL.

## **24. Water**

The Contractor shall allow in his Tender and provide at his cost all water required for the work or his employees on the work, together with all pipes and fittings or other means that may be necessary or required to ensure a proper and ample supply of water for all purposes connected with the work.

In the event of a provision existing in the Tender documents for supply of water on payment by Bharat Heavy Electricals Limited, water will be supplied from the BHEL supply system or other sources at any points fixed by the Engineer-in-charge on the site of work. The contractor shall make necessary arrangement for lifting pumping carrying or conveying the water as required at his own cost. The levy of water charges to be borne by the contractor in such case shall be specifically mentioned in the Tender documents.

## **25. Temporary workshops, store Etc,**

The Contractor shall, during the progress of the work provide, erect and maintain at his own expense all necessary temporary workshops, offices etc., required for the proper and efficient execution of the work. The planning, siting, and erection of these buildings shall have the approval of the Engineer-in-charge and the Contractor shall all at times keep them tidy and in a clean and sanitary condition to the entire satisfaction of the Engineer-in-charge.

On completion of the work all such temporary building shall be cleared away and the site restored and left in a clean and tidy condition to the entire satisfaction of the Engineer-in-charge.

## **26. Tool and Plant on site**

All tools, plant and equipment brought to the site shall not be removed from the site without the prior written approval of the Engineer-in-charge when the work is finally completed or the contract is determined for reasons other than the default of the contractor he shall forthwith remove from the site all tool, plant, equipment etc., (other than those as may have been provided by BHEL)

## **27. Statments of Hire Charges**

A monthly detailed statement of the hire charge incurred in respect of BHEL tools, plant, equipments etc., shall be given to the Contractor by the Engineer-in-charge.

## **28. Precaution Against risks**

The Contractor shall be responsible for providing at his own expense, for all precaution to prevent loss or damage and for the necessary steps to be taken for the said purpose until the works have been handed over complete, in all respects to the Engineer-in-charge.

The Contractor shall provide all watchman necessary for the protection of the site, the work, the materials, tools, plant, equipment and anything else lying on the site during the progress of the work. He shall solely be responsible for and shall take all reasonable and proper steps for protecting, securing, lighting and watching all places on or about the work and the site which may be dangerous to any person whomsoever.

## **29. Notices and fees**

The Contractor shall give all notices required by any Statutory provision or by the regulations and/or bye-laws of any local / or of any same are or will be connected. The contractor shall pay and indemnify BHEL against any statutory fees and charges payable under such Acts. Regulation and / or bye-laws in respect of the work and shall make and supply all drawings and plans required in connetion with any such notice.

## **30. Setting out of the works and Protective and Maintaining signals and works**

The Engineer-in-charge shall supply dimensioned drawings, levels and other information necessary to enable the contractor to set out the work. the contractor shall at his own expense set accurately according to the drawings and figured dimension thereon, all the work comprised in the contract and any extras or additions there to and shall be solely responsible for their being so set out and executed.

All bench marks, pegs, signals on the surface alignment stones, milestones and all similar marks whether put in by BHEL Authorities for the purpose of checking the Contractor's work or in the nature of permanent survey marks will during the tenure of the contract, be under the care of the Contractor who shall at his own expense take all proper and reasonable precautions and care to preserve and maintain them in their true position. In the event of these marks being disturbed or obliterated by accident or due to any other cause whatsoever, the same may, if deemed necessary be replaced by the Engineer-in-charge at the Contractor's expense and the cost thereof deducted from any money then or thereafter becoming due to the Contractor.

Where requested by the Contractor, the level marks, centre line and chainage pegs corresponding to those shown on the Drawing will be pointed out to the Contractor on the ground but all bench marks or chainage pegs additional to those shown on the Drawing will be set out by BHEL authorities.

### **31. Site Drainage**

All water that may accumulate on the site during the progress of the work, or in trenches and excavations shall be removed to the entire satisfaction of the Engineer-in-charge and at Contractor's expense.

### **32. Excavation, Relics, etc.**

Materials of any kind obtained from excavation on the site shall remain the property of BHEL and shall be disposed off as Engineer-in-charge directs.

All gold, silver, oil and other minerals of any description and all precious stones coins treasures, relics, antiquities and other similar items which may be found in or upon the site shall be the property of Bharat Heavy Electricals Limited and the contractors shall duly preserve the same to the satisfaction of the BHEL and shall from time to time deliver the same to such person or persons as the BHEL may appoint to receive the same.

### **33. Foundations**

The Contractor shall not lay any foundations until the excavations for the same have been examined and approved in writing by the Engineer-in-charge.

### **34. Covering - in work**

The Contractor shall give reasonable notice in writing to the Engineer-in-charge whenever any work is to be permanently covered up or concealed, whether by earth or other means so that it can finally be inspected or measured, if necessary. In default of so doing, the Contractor shall if required by the Engineer-in-charge uncover such work at his own expense.

### **35. Approval of Works by Stages**

All work embracing more than one process shall be subject to examination and approval at each stage thereof and the Contractor shall give due notice in writing to the Engineer-in-charge when each stage is ready. In default of such notice being received, the Engineer-in-charge shall be entitled to approve the quality and extent thereof at any time he may choose and in the event of any dispute, the decision of the Engineer-in-charge thereon shall be final conclusive.

### **36. Execution of the work**

The work shall be executed in a workman like manner and to the satisfaction in all respects of the Engineer-in-charge.

The Engineer-in-charge will communicate or confirm his instructions to the Contractor in respect of the execution of the works in a "Work Site Order Book" maintained at his office and the Contractor shall visit this office daily and shall confirm receipt of such instruction by signing the relevant entries in this book. Such entries will rank as order to notices in writing the intent and meaning of these conditions.

### **37. Day Work**

No day - work shall be performed without the prior written instructions of the Accepting Officer.

The Contractor shall give to the Engineer-in-charge reasonable notice of the start of any work ordered to be executed by day-work and shall deliver to the Engineer-in-charge within two days of the end of each pay week a return in duplicate giving full detailed accounts of labour and materials for the payweek. One copy of each of these returns, if found correct will be certified by the Engineer-in-charge and returned to the Contractor and must be produced at the time of adjustment of accounts.

An Invoice in duplicate signed by the Contractor or his agent shall be sent with each delivery of materials for day-work and the Contractor will be furnished with receipt signed by the Engineer-in-charge specifying the description, quantities, weight or measurement (as the case may be) of the articles approved, reference will be made in this receipt in the return aforesaid and the Contractor's Bill.

In the case of Lumpsum Contracts, the rates to be charged and the percentage addition for profit and establishment charges etc. will be agreed upon between the Accepting Officer and the Contractor prior to the execution of the work.

### **38. Inspection of the Work**

BHEL Officers concerned with the contract shall have power at any time to inspect and examine any part of the work and the Contractor shall give such facilities as may be required to be given for such inspection and examination.

Should Engineer-in-charge consider, at any time during the expiry of the maintenance period, that any work has been executed with unsound, imperfect or unskilled workmanship or of a quality inferior to that contracted for or not otherwise in accordance with the contract (in respect). Whereof the decision of the Engineer-in-charge shall be final and conclusive the contractor shall, on demand in writing from the Engineer-in-charge specifying the fault notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith rectify or removed and reconstruct the work so specified in whole or in part as the case may require at his own expense to the entire satisfaction of the Engineer-in-charge and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in his demand as aforesaid, the Engineer-in-charge whose decision shall be final and binding may carry out the work by other means at the risk and expense in all respects of the Contractor. However, the liability of the Contractor under this condition shall not extend beyond the maintenance period except as regards workmanship which the Engineer-in-charge shall have previously given notice of to the Contractor to rectify.

### **39. Responsibility for Building**

In the event of any building or part of any building being handed over to the Contractor for the execution of work there to under the provisions of the Contract he shall give a written receipt for all fixtures, glass etc., and he shall be required to make good at his own expense all damages resulting from the cause whatsoever while in his charge and on completion of the work to deliver the said building or part

thereof in a clean state complete in every particular to the entire satisfaction of the Engineer-in-charge.

#### **40. Insurance**

The Contractor shall within one month after the date of acceptance of the Contract, insure the work against loss or damages to the contract works, temporary work and materials erected in performance of the contract "all risks" basis from the time of arrival on site until taken over by BHEL on completion of the Contract.

The cover shall also include whenever necessary the risks of testing including breakdown or explosion of plant and machinery undergoing testing, trial and commissioning operations. The insurance shall also specifically cover removal of debris cost. The sum insured shall represent the estimated full value of the contract work inclusive of value of free supply materials by BHEL, transport charges, customs dues, express freight, overtime charges, cost of erection, value of constructional plants and machinery; removal of the debris and excavation of costs. Where the contract includes a maintenance period, the insurance cover shall specifically include the Contractor's liabilities during the maintenance period. The insurance shall also be extended to cover third party personal injury and property damage for a sum to be specified by BHEL. The insurance shall be effected in the name of BHEL and the Contractor shall submit to BHEL a draft of the insurance policy for approval. The policy when issued will be lodged with BHEL together with receipts of premium for such insurance and the contractor shall maintain such policies in force until the obligations of the Contractor are fully discharged.

If the Contractor fails to comply with the terms of this condition the Accepting Officer may insure the work and may deduct the amount of premiums from any money that may become payable to the Contractor or may at his discretion refuse payment of any advances to the Contractor until the Contractor shall have complied with the terms of this condition. This provision does not, however, absolve the Contractor of his responsibility for taking up the insurance. The Contractor is, therefore, primarily responsible for the insurance in time.

#### **41. Damage and Loss to Private Property and Injury to Workmen**

The Contractor shall at his own expense reinstate and make good to the satisfaction of the Engineer-in-charge and pay compensation for any injury, loss or damage occasioned to any property or rights whatever including property and rights of BHEL (or agents, servants or employees of BHEL) the injury loss or damage arising out of or in any way in connection with the execution of the contract and further the Contractor shall indemnify BHEL against all claims enforceable against BHEL or any agent, servant, or employee of BHEL a private person, in respect of any such injury (including injury resulting in death loss or damage to any person) who so ever or property, including all claims which may arise under the Workmen's Compensation Act or otherwise, or which would be enforceable against BHEL.

#### **42. Completion**

The works shall be completed to the entire satisfaction of the Engineer-in-charge and in accordance with the Contractor's forecast of Time and progress where operative, and all unused stores and materials, tools, plants equipment, temporary Building and things shall be removed from the site and work cleared of rubbish and all

waste materials and levelled up clean and tidy to the satisfaction of the Engineer-in-charge at the Contractor's expense and/or before the Schedule date of completion.

The BHEL shall have power to take over from the Contractor from time to time such sections of the Work as have been completed to the satisfaction of the Engineer-in-charge. In such an event, the contractor is not entitled for any extension of time or any other compensation for executing the balance work.

In case the Contractor fails to remove any of his properties, assets or fails to clear the rubbish and waste materials within 30 days of the completion of the contract, it is lawful for the contractee, that is BHEL to take such action as it deems fit to clear, dispose of such properties, assets or such waste materials and charge the Contractor any expenses incurred thereon.

The Engineer-in-charge shall certify to the Contractor the date on which the work is completed and the state thereof.

The Engineer-in-charge shall also certify to the Contractor the state of the work at the end of maintenance period, where applicable.

#### 43. Compensation for delay

If the Contractor fails to maintain the required progress in terms of condition 7 or to complete the work and clear the site on or before the contracted or extended period of completion, he shall, without prejudice to any other right or remedy of the BHEL on account of such breach pay as agreed compensation an amount calculated as stipulated below or such smaller amount as may be fixed by the BHEL on the contract value of the work for every week that the progress remains below that specified in condition 7 or that the work remains incomplete.

This will also to items or groups of items for which separate period of completion has been specified.

For the purpose the term "Contract Value" shall be the value at contract rates of the work or ordered.

- |  |                        |
|--|------------------------|
| a) Completion period (as originally stipulated) not exceeding 6 months                       | at 1 per cent per week |
| b) Completion period (as originally stipulated) exceeding 6 months and not exceeding 2 Years | at ½ per cent per week |
| c) Completion period (as originally stipulated) exceeding 2 years                            | at ¼ per cent per week |

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed the under noted percentage of the contract value or of the item or group of items of work for which a separate period of completion is given :

- |   |             |
|---|-------------|
| a) <sup>Completion</sup> <del>Complete</del> period (as originally stipulated) not exceeding 6 months | 10 per cent |
|---|-------------|

- |  |             |
|--|-------------|
| b) Completion period (as originally stipulated) exceeding 6 months and not exceeding 2 Years | 7½ per cent |
| c) Completion period (as originally stipulated) exceeding 2 years                            | 5 per cent  |

The amount of compensation may be adjusted or set-off against any sum payable to the contractor under this or any other contract with the BHEL.

#### 44. Laws Governing the Contract

This Contract shall be governed by the Indian Laws for the time being in force.

#### 45. Cancellation of Contract for Corrupt Acts

The Accepting Officer, whose decision shall be final and conclusive, shall without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to Bharat Heavy Electricals Limited, cancel the Contract in any of the following cases and the contractor shall be liable to make payment to BHEL for any loss or damage resulting from any such cancellation for default. If the Contractor shall :

- a) Offer or give or agree to give to any person in BHEL service any gift or consideration of any kind as an inducement or reward for doing or for bearing to do or for having done or forborne to do a day act in relation to the obtaining or execution of this or any other contract for BHEL service OR
- b) Enter into a contract with BHEL in connection with which commission has been paid or agreed to be paid by him or with his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to the Accepting Officer, OR
- c) Obtain a contract with BHEL as a result of ring tendering or by non-bonafide methods of competitive tendering without first disclosing the fact in writing to the Accepting Officer.

#### 46. Cancellation of Contract for Insolvency, Assignment or Transfer or Sub-Letting of Contract

The Accepting Officer, without prejudice to any other or remedy which shall accrue thereafter to BHEL shall cancel the contract in any of the following cases :

If the Contractor

- a) being an individual, or if a firm any partner thereof shall at any time be adjudged bankrupt or have a receiving order or orders for administration, of his Estate made against him or shall take and proceedings, for liquidation or composition under any Bankruptcy Act for the time being in force or make any conveyance of assignment of his effects composition or arrangement for the benefit of his credit or purport to do so, or if any application be made under any Bankruptcy Act for the time being in force for sequestration of his Estate or if a trust deed be granted by him on behalf of his creditors, OR

- b) being a company shall pass a resolution or the court shall make an order for the liquidation of its affairs, or a Receiver or Manager on behalf of the debentures holders shall be appointed or circumstances shall arise which entitle the court or debentures holders to appoint a Receiver or Manager OR
- c) assigns, transfer, sub-lets or attempts to assign, transfer or sub-let any portion of the work without the prior written approval of the Accepting Officer OR
- d) Shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.

Whenever the Accepting Officer, exercises his authority to cancel the contract under this condition, he may complete the work by any means at the Contractor's risk and expense provided always to that in the event of the cost of completion (as certified by Engineer-in-charge which is final and conclusive) being less than the contract cost, the advantage shall accrue to the BHEL and that if the cost of completion exceeds the moneys due to the Contractor under the contract, the contractor shall either pay the excess amount ordered by the Engineer-in-charge or the same shall be recovered from the Contractor by other means.

Engineer-in-charge will have powers to take possession of the site and any materials constructional plant, implements, stores, etc. thereon and carry out the work by any means at the risk and cost of the Contractor.

In case the BHEL completes the work under the provisions of this condition the cost of such completion to be taken into account in determining the excess cost to be charged to the contractor under this condition shall consist of the cost of materials purchased and or labour provided by the BHEL with an addition of such percentage or cover superintendence and establishment charges as may be decided by the General Manager whose decision shall be final and conclusive.

In the Contractor fails to pay the excess sum within a period of 30 days, the Engineer-in-charge shall have the right to sell any or all of the Contractor's unused materials, constructional plant implements, temporary buildings etc. and apply the proceeds of sale thereof towards the satisfaction of any sum due from the Contractor under the contract and if thereafter be any balance outstanding from the Contractor, it shall be recovered in accordance with the provisions of the Contract.

#### **47. Cancellation of contract in part or Full for Contractor's Default**

If the contractor :

- a) makes default in commencing the work within a reasonable time from the date of handing over of the site and continue in that state a reasonable notice from Engineer-in-charge OR
- b) in the opinion of the Engineer-in-charge at any time, whether before or after the date extended date for completion, make default in proceeding with the work, with due diligence and continue in the state after a notice of seven days from Engineer-in-charge OR
- c) fails to comply with any of the terms and conditions of the contract or after 7 days notice in writing with orders properly issued thereunder. OR

- d) fails to complete the work order and items of work individual dates for completion and clear the site on or before the date of completion or fails to achieve the progress at set out under clause 7 of these General conditions of contract.

The Accepting Officer may, prejudice to any other right or remedy which shall have accrued or shall accrue after B H E L, Cancel the contract as a whole or in part there or only such work order items of work in default from the contract. Whenever the Accepting officer exercises his authority to cancel the contract as a whole or in part under this condition he may complete the work at the contractor's risk and cost provided always that in the event of the cost of completion (as certified by Engineer-in-charge which is final and conclusive) being less than the contract cost the advantage shall accrue to the BHEL if the cost of completion exceeds, the money due to the contractor under this contract the contractor shall either pay the excess amount ordered by General Manager or the same shall be recovered from the contractor by other means. Engineer-in-charge will have power to take possession of site and materials, constructional plant, implements, stores etc there on.

In case the BHEL completes the work or any part there of under the provisions of the condition the of such completion to be taken in to account in determining the excess cost to be charged to the contract under this condition shall consist of the cost of materials purchased and / or labour provided by the BHEL. with an addition of such percentage to cover superintendance and establishment charges as may be decided by the General Manager whose decision shall be final and conclusive.

If the contract fails to pay the excess sum within a period of 30 days the Engineer-in-charge shall have the right to sell any or of the contractor's unused materials, construction plant, implements, temporary buildings etc and apply the proceeds of sale there of towards the satisfaction of any sum due from the contractor under the contract and if <sup>there</sup> ~~not~~ after be any balance out-standing from the contract, it shall be recovered in accordance with the provisions of the contract.

#### 48. Termination of Contract for death

Without prejudice to any of the rights or remedies under this contract. if the contractor dies, the Accepting officer shall have the option of terminating the contract without compensation to the contractor.

#### 49. Special Powers of Determination

If at any time after the acceptance of the tender BHEL shall for any reason whatsoever not require the whole or any part of the work to be <sup>carried out</sup> ~~done~~ General Manager shall give notice in writing of the fact to the contractor who shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he <sup>did</sup> ~~did~~ not derive in consequence of the foreclosing of the work.

He shall be paid at contract rates for the full amount of the executed including such additional works, e, g. clearing of site, etc., as may be rendered necessary by the said foreclosing. He shall also be allowed a reasonable payment (as decided by the Accepting office) for any expenses sustained on account of labour and materials collected but which could not be utilised on the work, as verified by the Engineer-in-charge. Neither shall the contractor have any claim for compensation on account of any alterations have been made in the original specifications drawings, designs and instructions, involving any curtailment of the work as original contemplated.

**50. BLANK**

## CHAPTER - IV

### VALUATION AND PAYMENT

#### 5). Records and Measurements :

All items having a financial value shall be entered in the BHEL Measurement Book so that a complete record is obtained of all works performed under the contract.

Buildings, etc., priced in schedule 'A' as a unit Lump-sum will be entered by number at the unit Lump-sum.

Work carried out for agreed Lump-sum will be described and similarly recorded.

Lump-sum omissions will be entered for deduction. Measurement shall be restricted to that required to ascertain the financial liability of BHEL under the contract.

Work which fails to be measured in detail shall be measured physically, without reference to any local custom that may obtain excepting where it may otherwise be directed in the tender documents. The measurements shall be taken jointly by any person duly authorised on the part of the BHEL and by the contractor.

The engineer-in-charge shall give reasonable notice in writing to the contractor of appointment of measurement.

The contractor shall without extra charge, provide assistance with appliance and other things necessary for measurement.

The contractor shall bear all the cost of measurements of his work.

measurements shall be entered in the BHEL measurement book and signed and dated by both parties each day at the site on completion of measurement. If the contractor objects to any of the measurements recorded on behalf of the BHEL. A note to that effect to be made in the BHEL measurement book or against the item or items objected to; and such note shall be signed and dated by both the parties engaged in taking the measurement.

If as a result of such objection, it becomes necessary to re-measure the work wholly or in part, the expense of such measurement shall be borne by the party requiring the measurement.

Measurement to be re-taken provided that a net error is found by this re-measurement to amount to less than 5% (Five percent) of the value as recorded by the first measurement. But where the net errors amount to 5% and over of the said value, then the cost is to be borne by the other party. In any case if the net value of errors found exceeded to Rs 500 the expense or re-measurement is said to be borne by the other party. If the contractor's representative fails to attend when required, the engineering-in-charge shall have power to proceed by himself to take measurement and in that case those measurements shall be considered as accepted by the contractor as final. The contractor shall, once in every month, submit to the engineer-in-charge with a copy to the accepting officer details of his claims for the work done by him up to and including the previous month which are not covered by his contract agreement in any of the following respects.

- a) Deviation from the items and specifications provided in the contract documents.
- b) Extra Items / Items of work.
- c) Quantities in excess of those provided in the contract schedule.
- d) Items in respect of which rates have not been settled. He should, in addition furnish a clear certificate to the effect that the claims submitted by him as aforesaid cover all his claims and that no further claims shall be raised by him in respect of work done up to and including the period under report.

Except where any general to detailed description of the work in quantities expressly shows to contrary, schedule of quantities shall be deemed to have been prepared and measurements shall be taken in accordance with the procedure set forth in the schedule of rates specification not withstanding any provision in the relevant standard method of measurement or any general or local custom. In the case of items which are not covered by the schedule of rates / specification, measurement shall be taken in accordance with relevant standard method of measurement issued by the Indian Standard Institution or as per Standard engineering practice.

## **52 Valuation of Deviations**

Rates for deviated items of work will be fixed as follows :

- 1) For any item of work required to be carried out after the contract has been awarded and which is not covered by Contractor's Schedule but is covered by B.H.E.L. schedule of Rates the payable for such a fresh item will be derived from B.H.E.L. Schedule by the method of proportion as follows:
  - a) In the same proportion to the BHEL Schedule of rates as the tendered rate for the nearest analogous item of work in contractor's schedule bears to rate for the particular analogous item of work in BHEL schedule of rates. However in case of nearest analogous item of work in contract schedule forms part of individual chapter of the BHEL schedule of rates the above proportion will be worked out only for such items which are found both in contract schedule and BHEL Schedule of rates as group of items under the chapter.
  - b) If a single appropriate analogous item of work is not available in both schedule (contractor's and BHEL schedule) then the method of proportion will be applied to the nearest analogous group items available in both the schedule referred to i.e. in the same proportion as the total tendered cost of that particular group of item (the sum of the products of the tendered rates and the quantities for which orders are placed ) bears to the total cost of the same items and quantities and BHEL Schedule of Rates.
  - c) If even an appropriate analogous group of items is not available in contractor's schedule and BHEL Schedule, then the methods of proportion will be applied to all those items of the whole work, which are available in both the schedule and for which orders have been placed on the contractor i. e., in the same proportion as the total cost of all

these items of work (the work of the products of the tendered rates and the quantities for which order are placed) bears to the total cost of the same items and quantities at the BHEL schedule of rates.

The selection of analogous items or analogous group of items referred to above shall be done by the Engineer-in-charge. Where the rates for deviated items or new items of work can be derived by the selection of different analogous items or analogous group of items, the lowest of all such derived rates shall be taken as the correct rate.

In the case of the contracts for which the Engineer-in-charge is the Accepting officer all disputes regarding the settlement of rates of deviated or new items or work shall be referred to the Head of Civil Engineering Department whose decision shall be final and conclusive as the case may be.

II. If any work not covered by any of the foregoing is ordered of the contractor, the basis of payment shall be decided by the Accepting Officer whose decision shall be final and conclusive and binding on the parties.

### **53. Reimbursement / Refund on variation in Price, Materials**

If after submission of the tender and / or during the progress of the works, the price of any material (not being a material supplied from the BHEL store in accordance with the conditions of the contract) is increased or decreased by an Act of Legislature (central or state) and / or any notification thereunder or on account of new duties or levies such as octroi or on account of increase or decrease in such duties affecting the price of materials required for incorporation in the works and made from materials of which the price has increased or decreased as aforeaid and the contractor has thereupon to pay in respect of such material or item a price which is higher or lower than the price of that material or item as prevailing immediately before the passing of such act or levying, increasing / decreasing of such duty, the BHEL shall increase in price or the duty reimbursed to the contractor the increase in price or additional or increased duty paid by the contractor and in case of decrease in price the BHEL shall be entitled to a refund of the reduction in the price or the reduction in duty. This will be applicable only for material which are directly incorporated on the work. The contractor shall however indicate the assumption he has made while submitting the tender. However no reimbursement or refund shall be made if the increase / decrease is not more than + 10% of the said price, and if so the reimbursement or refund shall be made only / on the excess over  $\pm$  10% provide always that any such increase shall not be payable if, in the opinion of the Accepting officer (whose decision shall be and conclusive) the increase is attributable to the delay in the execution of the contract with the control of the contractor or that any such increase has become operative after the contracted/ or extended dated of completion of the works or items of work in question.

The Contractor shall, for the purpose of this condition, keep such books of account and other document as are necessary to show the amount of any increase or any reduction available and shall allow inspection of the same by any duly authorised representative of the BHEL and further shall at the request of the Engineer-in-charge furnish for verification such other information as the Engineer-in-charge may require.

The Contractor shall within a reasonable time of his becoming, aware of any alteration in the prices of any such materials give notice thereof in writing to the Engineer-in-charge stating that the rate is submitted in pursuance to this condition together with all information relating thereto which he may be in a position to supply.

#### **Advance on account**

No payment shall be made for work estimated to cost less than Rupees ONE THOUSAND till after the whole of the work shall have been completed and a certificate of completion given by the Competent authority.

In the case of work estimated to cost more than Rupees FIVE THOUSAND the contractor may at intervals of less than one month or as otherwise provided for in the Contract documents, counting from the date on which order to commence work is given by Engineer-in-charge submit claims on BHEL forms for payment of advances on account of work done and of materials delivered in connection with the Contract.

The Contractor shall be paid in respect of such claims to the extent approved and passed by the Engineer-in-charge subject to a maximum of 90% of the value of the work actually executed to the satisfaction of the Engineer-in-charge. The certificate of the Engineer-in-charge regarding such approval and passing of the sums so payable shall be final and conclusive against the contractor.

#### **Notes :**

"After the full amount of Security Deposit is made up through the 10% deduction from On account bills, 100% payment of all subsequent bills may be made to the contractor.

The Contractor may also be paid during the progress of the work 75% of the value of any materials which are in the opinion of the Engineer-in-charge in accordance with the Contract, and are actually required for incorporation in the work and which have reasonably been brought to the site in connection therewith and are adequately stored and / or protected against damage by weather or other causes, but which have not at the time of payment of the advance been incorporated the work on furnishing a formal hypothecation deed. Payment of such advances, however shall be purely at the discretion of the Accepting Officer provided always that payment shall not be made under these periodical certificate in respect of materials like lime, cement, timer, sand, kankar, etc.

Any sums, due from the Contractor on account of Tools and Plant, stores or any other items provided by BHEL shall be deducted from the respective advances. The Engineer-in-charge shall from time to time certify the sums payable to the Contractor after retaining the reserves.

Any certificate relating to work done or materials delivered may be modified or corrected by any subsequent interim certificate or by the final certificate of the Engineer-in-charge supporting an advance payment shall itself be conclusive evidence that any any work or materials it relates are in accordance with the contract. All such intermediate payments shall be regarded as advance against the final payment only and shall not be considered an admission of the performance of the contract or any part thereof in any respect or the accruing of any claim whatsoever.

Such intermediate payment shall not conclude determine or affect in any way the powers of the Engineer-in-charge as to the final settlement and adjustment or the account or otherwise or in any way vary or affect the contract.

#### **55. Final Bill**

As soon as possible after the completion of the work to the satisfaction of the Engineer-in-charge, the contract shall forward a certified final account on BHEL forms, in duplicate.

It shall be accompanied by all abstracts, vouchers, etc., in support thereof and shall be prepared in the manner prescribed by the Engineer-in-charge.

No claims will be entertained after the receipt of the final bill.

The Contractor shall be entitled to be paid the final sum less the value of payments already made on account, subject to certification of the final bill by the Engineer-in-charge. Any sums due from the Contractor on account of Tools and Plant, Stores or any other items provided by BHEL not yet recovered from the contractor shall be deducted from the final sum aforesaid.

No charge shall be allowed to the Contractor on account of the preparation of the final bill.

#### **56. Payment of Bills**

All payment to be made to the Contractor under this contract shall be by "Crossed Cheque" marked "A/c payee only" (within a reasonable time after the certification by the Engineer-in-charge) at the Nationalised Banks/Scheduled banks or their subsidiaries located in the station where either the work is executed or service rendered or at their branch nearest to the station where the Office of the Engineer-in-charge is located.

#### **57. Recovery from Contractor**

Whenever under the contract any sum of money shall be recovered from or payable by the Contractor the same may be deducted any sum then due or which at any time thereafter may become due to the Contractor under the contract or under any other contract with BHEL or from his Security Deposit or he shall pay the claim on demand.

#### **58. Post Technical Audit of work and Bills**

BHEL reserve the right to carry out a post-payment audit and technical examination of the work and final bill including all supporting vouchers, abstracts etc., and to enforce recovery of any sums becoming due as a result thereof in the manner provided in the preceding sub-paragraphs provided. However, no such recovery shall be enforced after three years of passing the final bill.

#### **59. Refund of Security Deposit**

50% of the Security deposit mentioned in condition 18 above, may be refunded to the Contractor in respect of all contract on completion of work and after payment of final bill and the balance 50% on expiry of the maintenance period, provided the

Contractor shall have rendered a "No - Demand" Certificate. In case of work where maintenance period is not involved 100% of the Security Deposit may be refunded after payment or final bill provided that the Contractor shall have rendered a "No Demand" Certificate.

## **60. Arbitration**

Except where otherwise provided for in the contract all questions and disputes relating to the meaning of the specifications, designs, drawings and Instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or there conditions or otherwise concerning the work or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the General Manager of BHEL and if General Manager is unable or unwilling to act, to the sole arbitration of same other persons appointed by the General Manager, willing to act as such arbitrator.

The cases referred to arbitration shall be other than those for which the decision of the Accepting Officer, or Engineer-in-charge as the case may be, is expressed in the contract to be final and conclusive. There will be no objection if the arbitration, so appointed is an employee of BHEL and that he had to deal with the matters to which the contract relates and that in the course of his duties as such he had expressed views on all or any of the matters in dispute or difference.

The arbitrator to whom the matter is originally referred being transferred or vacating his office or being unable to act for any reason, such General Manager as aforesaid at the time of such transfer, vacation of office or inability to act, shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

Subject as aforesaid the provision of the Arbitration Act, 1940 or any statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceeding under this clause.

It is a term of the contract that the party involving arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amount claimed in respect of each dispute.

The arbitrator(s) may from time to time with consent of the parties enlarge the time, for making and publishing the award.

The work under the Contractor shall if reasonably possible continue, during the arbitration proceedings and no payment due or payable to the Contractor shall be withheld on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issues notices to both the parties fixing the date of first hearing.

The Arbitration shall give a separate award in respect of each dispute or difference referred to him.

The venue of arbitration shall be such place as may be fixed by the Arbitrator in his sole discretion.

The award of the Arbitration shall be final, conclusive and binding on all parties to this contract.

In the event of disputes or differences arising between one public sector enterprise and a Govt. Department or between two public sector enterprises the above stipulations shall not apply, the provisions of BPF Office memorandum No. BPF/CL001/76MAN/2(1.10) 75 - BPE (GM - 1) dated 1st January 1976 or its amendments for arbitration shall be applicable.

**61. Jurisdiction of Court**

For the purpose of Court proceeding if any, same shall be in the Court having jurisdiction over Ranipet - 632 406. (Vellore District, Tamilnadu).

**62. Taxes etc. -**

All taxes, duties, levies that are payable to the Government or to any other authorities in respect of the works under the contractor at the time of contract or becomes payable in future shall be exclusively borne by the contractor and the BHEL is not liable for any reimbursement / Payment thereof.

## ANNEXURE - I

### TERMS AND CONDITIONS REGARDING COMPLIANCE WITH VARIOUS LABOUR LAWS BY THE CONTRACTORS FOR BHEL

{Please See Condition - 22}

1. The Contractor shall not employ in connection with the work any person who has not completed 18 years of age.
2. The Contractor shall in respect of labour employed by him either directly or through sub-contractor's comply with or cause to be complied with the following statutory provisions and rules and in regard to all matters provided therein.
  - a) The Contract Labour (Regulation & Abolition) Act 1970 and the related Tamilnadu rules.
  - b) The Minimum wages Act 1948 and the related Tamilnadu Rules.
  - c) The payment of wages Act 1936 and the related Tamilnadu Rules.
  - d) The factories Act 1948 and teh related Tamilnadu Rules.
  - e) The Employees' Provident Fund & Miscellaneous Provisions Act 1952.
  - f) The Employees State Insurance Act 1948.
  - g) The workman's Compensation Act 1923.
  - h) The Industrial Disputes Act 1947 and any other Law or modifications to the above or to the rules made there under from time to time.
  - i) Paymet of Bonus Act 1985.

#### REGISTRATION AND LICENSING

3. Every Contractor shall register his name with the Welfare Section of BHEL before taking up the work awarded to him by giving the following information and getting a code Number :-
  - a) The Name of the Contractor.
  - b) Nature of Contract Work.
  - c) Period of Work.
  - d) Number of maximum labour employed by him on anyone day.
  - e) Licence No. & Date (applicable in case of Contractors employing 20 or moreworkers)
  - f) Whether enrolled for PF, ESI, etc., and enrolment No.

This information is called for the purpose of informing the Inspectorate of Factories whenever they call for information regarding Contracts.

4. The Contractor employing 20 or more workmen is required to obtain licence from the authorities (The Deputy Chief Inspector of Factories / Assistant Commissioner of Labour as the case may be). This licence shall be amended and /or renewed wherever there is an increase in the workmen employed by him or in the event of contract being extended or renewed. The Contractor shall inform the licence number to the BHEL Management before taking up the work.
5. The Contractor (licensed or unlicensed) shall promptly furnish every information and document required by BHEL authorities for the purpose of fulfilling their obligations as principal Employer and / or occupier of the factory and shall render all necessary assistance for the same.

#### **WAGES**

6. The Contractor shall pay wages to the workmen employed by him at the rate which shall not be less than the minimum wages applicable under Law from time to time.
7. The Contractor shall fix wage periods in respect of which wages shall be payable. No wage period shall exceed one month.
8. The Contractor shall ensure payment of wages to the Contract labour employed by him within three days from the end of wage period in case the wage period, is one week or a fortnight and in all other cases before 10th day of the following month.
9. All payment of wages shall be made on working days at the work site and during the working time and on dates notified in advance. In case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
10. Where the employment of any works is terminated by or on behalf of the Contractor, the wages earned by him shall be paid before the expiry of the second working day from the day on which his employment is terminated.
11. Wages due to every worker shall be paid to him direct or to the person authorities by him in this behalf. All wages shall be paid in current coin or currency or in both.
12. The Contractor shall ensure the disbursement of wages in the presence of such authorised representatives of BHEL Management.
13. The above payment shall be verified by the authorised Officers/ representative of BHEL with the following certificates on the payment sheet  
 Certified that the amount shown in Column No..... has been paid to the workmen concerned in my presence on..... at .....
14. A certificate of payment shall be furnished in duplicate by the Contractor to the Engineer-in-charge each month in Form "A" enclosed.

15. A Notice of showing the wage period and the place and time of disbursement of wages shall be displayed at the place of work and a copy to be sent to the welfare department by the Contractor under acknowledgement.
16. Notices showing the rates of wages, weekly rest days, wage period, hours of work, date of payment of wages, and addressed of the Inspectors having jurisdiction the date of unpaid wages shall be displayed in Tamil and English in conspicuous places at the establishment and at worksite the contractor. The contractor shall inform the BHEL Management every month the details of contract labour engaged for each contract in the following form :-
  - a) Serial Number
  - b) Location
  - c) Period of Work
  - d) No. of Contract labour engaged during the work
  - e) No. of days worked
  - f) No. of Mandays worked
  - g) Wages paid to his workers

The above statement shall be furnished to BHEL Management at the end of every month.

#### **REGISTERS AND RECORDS AND COLLECTION OF STATISTICS**

17. The following documents/formats under contract labour (Regulation and Abolition) Act 1970 and Tamil Nadu Rules there under shall be maintained by each Contractor.
  - a) Register of Persons employed by the Contractor.
  - b) Employment Card
  - c) Service Certificate
  - d) Muster Roll, Wage Register, Deduction Register, Wage Slip, Over Time Register, Register of Fines, Register of Advances etc.
18. The Contractor shall display the abstract of the contract labour (Regulation and Abolition) Act and the Rules there under both in English and in Tamil.
19. Half Yearly Return shall be sent by the Contractor in duplicate to the Licensing Officer.
20. The Contractor shall submit the returns required under the Contract Labour (Regulation and Abolition) Act 1970 periodically to BHEL Management.
21. The Contractor shall without fail give upto date information in writing of the attendance of the workers employed by him.

22. The Contractor shall ensure that his workers keep and produce their Employment Card when coming to duty and take them back when leaving duty.
23. All the above registers and records shall be preserved in original for a period of Three years. All the Registers, Records and notice maintained under the Act and rules shall be produced on demand by Inspector or any authority under the Act.

#### **WORKING HOURS AND WORKING CONDITIONS**

24. NO WORKER SHALL BE REQUIRED OR ALLOWED TO WORK ON SUNDAY UNLESS HE HAS OR WILL HAVE A HOLIDAY ON ANYONE OF THE THREE DAYS BEFORE OR AFTER THE SAID DAY.
25. The contractor shall inform BHEL Management in the prescribed form details of the contract workers scheduled to work on Sunday, the day of rest and also indicate the substituted holiday in lieu thereof. This shall be intimated two days in advance before his workmen are booked for work on Sunday.
26. The contract labour working for more than nine hours in any day or for more than 48 hours in any week shall be paid wages at the rate of twice the ordinary rates of wages in accordance with the provisions of section 59 of the Factories Act 1948.
27. The contractor shall provide all safety devices and personal protective equipment to his workmen at his own cost and shall ensure that his workmen wear/use such devices or equipment provided to them while doing the work and there should not be any relaxation on this.
28. The contractor shall give four paid National Holidays to his workers, viz. 26th January, 1st May, 15th August and 2nd October.
29. The contractor shall ensure that his workmen vacate the premises after the shift is over.
30. No woman worker shall be required or allowed to work in the factory except between the hours of 6.00 a.m and 7.00 p.m.
31. The contractor shall comply with the provisions relating to welfare and Health facilities as provided in the contract labour ( Regulation and Abolition ) Act 1970 read with the Tamilnadu contract labour Rules 1975.

#### **NOTICES OF ACCIDENTS**

32. Notwithstanding any thing contrary to this, in the event of accident the contractor shall be required to fill injury report and submit the Engineer-in-charge immediately and ensure the compliance of ESI/Workmen's Compensation Act, Factories Act and Rules made there under. He shall also maintain a register of accident as per Act.
33. The contractor shall get the contract labour engaged by him insured under workmen's Compensation Policy from General Insurance Corporation of India before actually starting the work of contract. The Insurance coverage should

be for the entire period of contract. The contractor shall comply with the provision of the Workmen's Compensation Act 1923 [This should be read in conjunction with the provision of ESI Act]

34. The contractor shall ensure that all his workmen are covered under the Employees State Insurance Act and produce to BHEL such Registration Number/ Enrolment Number before executing the contract work.
35. The contractor shall regularly pay the amount of contribution i.e. employers contribution as well as employees contribution in pursuance of the above scheme as fixed from time to time. The contribution payable presently is 1.75% of wages to be recovered from the workmen and 4.75% of wages to be contributed by the contractor. Contribution recovered from employee and contribution made by the contractor may be rounded to the next higher multiples of five paise.
36. The contractor shall take note of any amendment that may be brought forth in the above contribution rate and accordingly.
37. The contractor shall ensure that his workmen are covered under the EPF & miscellaneous Provision Act 1952 and accordingly produce to the BHEL Management the registration / enrolment number before awarding of contract work. As per the existing provision every worker who has completed three months continuous service or has actually worked for not less than 60 days within a period of three months or less shall be entitled and required to become a member of the fund. The employees' contribution payable at present is 12% of wage which will be recovered by the contractor from the wages of his workmen and the contractor should pay equal contribution. The contractor is also liable to pay any administrative charges in this behalf that may be decided from time to time, it will be the responsibility of the contractor to ensure such contribution payable in respect of workmen employed through sub-contractors also.
38. The contractor shall take note of any amendment in the rate of contribution payable under the scheme from time to time.
39. The contractor shall within seven days of the close of every month submit to BHEL a statement showing the amount of contribution payable/paid for employees engaged by him or through him and shall also furnish to BHEL such information as Principal Employer is required to furnish under the provision of the ESI Act and PF as well as the schemes made thereunder to the authorities concerned.
40. Whenever any sum of money is found to be recoverable from or payable by the contractor under the above Acts the same shall be deducted from any sum that may be due or which at any time thereafter may become due to the contractor under this contract or under any other contract or from his security deposit in case the recoveries are not sufficient to satisfy the claims, the contractor shall pay the balance thereof on demand. In case any recoveries are made this clause shall as may be required to replace the shortage caused by such recoveries in the amount of Security Deposit.

41. The contractor shall abide by all the labour and other laws applicable to contract:labour/worken under this contract and shall at all times keep BHEL Indemnified against all losses, claims, prosecutions under any law.
42. in case of non compliance of any of the provisions of the Acts and in case BHEL Haveing complied with the same BHEL will be entitled to recover the same from the contractor / sub contractor.
43. Non exercise of any of the power of or rights available to BHEL here under or under any law, shall not any way operate as waiver thereof.

ACCEPTING OFFICER

**FORM - IV**

**(See Rule 21(1) of Tamil Nadu Contract Labour Rules)**

**Application for Licence**

01. Name and Address of the Contractor  
(including his Father's Name in case of  
Individuals) :
02. Date of Birth and age (in case of  
Individuals) :
03. Particulars of Establishment where  
Contract Labour is to be employed :
- a) Name and Address of the  
Establishment :
- b) Type of business, trade industry  
manufacture :
- c) Number and date of certificate of  
Registration of occupation, which is  
carried on the Establishment under  
the Act. :
- d) Name and address of the Principal  
Employer :
04. Particulars of contract labour :
- a) Nature of work in which contract  
labour is employed or is to be  
employed in the establishment :
- b) Duration of the proposed contract  
work (give particulars of proposed  
date of commencing and ending) :
- c) Name and address of the agent or  
Manager of contractor at the worksite :
- d) Maximum No. of contract labour  
proposed to be employed in the  
establishment on any date :

- 05. Whether the contractor was convicted of any offence within the preceeding five years, if so give details :
- 06. Whether there was any order against the contractor revoking or suspending licence or forfeiting security deposit in respect of an earlier contract if so the date of such order :
- 07. Whether the contractor has worked in any other establishment within the past five years, if so, give details of the principal employer Establishment and nature of work :
- 08. whether a certificate by the principal Employer in form V is enclosed :
- 09. Amount of licence fee paid No of Treasury challan and Date :
- 10. Particulars of security deposit if any, requested to be adjusted, including Treasury Receipt number :
- 11. The amount of security deposit or balance if any after adjustment of amount to be refunded under rule 31 deposited with treasury Receipt Number and date :

**DECLARATION**

I hereby declare that the details above are correct to the best of my knowledge and belief.

**PLACE :**  
**DATED :**

**SIGNATURE OF THE APPLICANT**  
**[CONTRACTOR]**

**NOTE :** The application should be accompanied by a treasury Receipt for the appropriate amount and a certificate in Form V From the principal employer.

(To be filled in the office of the Licensing officer)

Date of receipt of the application with challan for fees / security Deposit.

**SIGNATURE OF THE LICENSING OFFICER**

**CONTRACTOR**

**FORM - XIII**

**(See Rule 75 of Tamil Nadu Contract Labour Rules 1975)**

**Register of workman employed by contractor**

Name and Address of the Contractor :

Name and location of work :

Name and address of establishment in /under  
which contract is carried on :

Name and address of Principal Employer :

01. Serial Number :

02. Name and surname of workman :

03. Age and sex :

04. Father's / Husband's Name :

05. Nature of Employment /Designation :

06. Permanent Home address of workman  
( village Taluk and District ) :

07. Local Addresss :

08. Date of commencement of Employment :

09. Signature or Thump Impression of workman :

10. Date of termination of Employment :

**CONTRACTOR**

**FORM - XIV**

**(See Rule 76 of Tamil Nadu Contract Labour Rules)**

**EMPLOYMENT CARD**

Name and Address of contractor : Name and address of  
Establishment in/under which  
contract is  
carried on \_\_\_\_\_  
\_\_\_\_\_

Nature of work and location of work : Name and address of  
Principal Employer  
\_\_\_\_\_

01. Name of the workmen :

02. Sl. No. of register of workmen<sup>¶</sup> employed :

03. Name of Employment/Designation :

04. Wage rate (with particulars of unit in case of  
Piece work) :

05. Wage period :

06. Tenure of Employment :

07. Remarks :

**SIGNATURE OF CONTRACTOR**

**CONTRACTOR**

FORM - XV

{See Rule 77 of Tamil Nadu Contract Labour Rules}

**SERVICE CERTIFICATE**

Name and Address of the contractor : Name and address of  
Establishment in/under which  
contract is  
carried on \_\_\_\_\_  
\_\_\_\_\_

Name and location of the work :

Name and address of the workman : Name and address of Principal  
Employer  
\_\_\_\_\_

Age or Date of Birth :

Identification marks :

Father's / Husband's Name :

| Sl.No | Total period for<br>which employed |     | Nature of<br>work done |     | Rate of wage<br>(with particulars units<br>in case of piece of work | Remarks |
|-------|------------------------------------|-----|------------------------|-----|---|---------|
|       | From                               | To  | (4)                    | (5) |   |         |
| (1)   | (2)                                | (3) | (4)                    | (5) | (6)   | (7)     |

**SIGNATURE**

CONTRACTOR

**FORM - XVI**

(See Rule 78 [1] [a] [i] of Tamil Nadu Contract Labour Rules)

**MUSTER ROLL**

Name and Address of contractor : Name and address of Establishment in/under which contract is carried on \_\_\_\_\_

Nature of location of the work : Name and address of Principal Employer \_\_\_\_\_

For the Month of \_\_\_\_\_

| Sl. No | Name of workmen | Father's/Husbands Name | Sex  | Dates |      |   |   |   | Remarks |  |
|--------|-----------------|------------------------|------|-------|------|---|---|---|---------|--|
|        |                 |                        |      | 1     | 2    | 3 | 4 | 5 |         |  |
| (01)   | (02)            | (03)                   | (04) | (05)  | (06) |   |   |   |         |  |

**SIGNATURE OF CONTRACTOR**

**CONTRACTOR**

**FORM - XVII**

**(See Rule 78(1) (a) (i) of Tamil Nadu Contract Labour Rules)**

**Register of wages**

Name and Address of the Contractor :

Nature and location of work :

Name and address of establishment in/under  
which contractor is carried on :

Name and address of Principal Employer :

Wage Period : MONTHLY

01. Serial Number :

02. Name of workman :

03. Sl. No. in Register of workman :

04. Designation / Nature of work done :

05. No. of days worked :

06. Units work done :

07. Daily rate of wages / Piece rate :

08. Basic wages :

09. Dearness allowance :

10. Overtime :

11. Other cash Payment  
(Nature of payment to be indicated ) :

12. Total :

13. Deductions, If any [indicate nature ] :

14. Net amount paid :

15. Signature / Thumb impresion of workman :

16. Initials of contractor or his representative :

**CONTRACTOR**

**FORM - XIX**

(See Rule 78(1) (b) of Tamil Nadu Contract Labour Rules)

**Wage Slip**

Name and Address of the Contractor : Name and Father's /  
Husband Name of the  
workman \_\_\_\_\_

Name and location of work : For the week / Fortnight /  
Month ending .....

01. No. of days worked :

02. No. of units worked in  
case of piece rate workers :

03. Rate of daily wages /piece rate :

04. Amount of over time wages :

05. Gross wages Payable :

06. Deductions, if any :

07. Net amount of wages paid :

**INITIALS OF THE CONTRACTOR OR  
HIS REPRESENTATIVE**

**CONTRACTOR**

FORM - XX

(See Rule 78(1) (a) (ii) of Tamil Nadu Contract Labour Rules)

Register of deductions for damage or loss

Name and Address of the Contractor :

Nature and location of work :

Name and address of establishment in/under  
which contractor is carried on :

Name and address of Principal Employer :

01. Serial Number :

02. Name of workman :

03. Father's / Husband's Name :

04. Designation / Nature of employment :

05. Particular of damage or loss :

06. Date of damage or loss :

07. Whether workman showed cause  
against deduction :

08. Name of person in which presence  
employee's explanation was heard :

09. Amount of deduction imposed :

10. No. of instalments imposed : Date of Recovery

11. First Instalments :

12. Final Instalments :

13. Remarks :

CONTRACTOR

**FORM - XXI.**

**(See Rule 78(1) (a) (ii) of Tamil Nadu Contract Labour Rules)**

**Register of Fines**

Name and Address of the Contractor :

Nature and location of work :

Name and address of establishment in/under  
which contractor is carried on :

Name and address of Principal Employer :

01. Serial Number :

02. Name of workman :

03. Father's / Husband's Name :

04. Designation / Nature of employment :

05. Act / Omission for which fine imposed :

06. Date of offence :

07. Whether workman showed cause against  
fine :

08. Name of the person in whose presence  
employee's explanation was heard :

09. Wage period & Wage payable :

10. Amount of fine imposed :

11. Date on which fine realised :

12. Remarks :

**FORM - XXII**

**(See Rule 78 (1) (a) (ii) of Tamil Nadu Contract Labour Rules)**

**Register of Advance**

- Name and Address of the Contractor :
- Nature and location of work :
- Name and address of establishment in/under which contractor is carried on :
- Name and address of Principal Employer :
01. Serial Number :
02. Name of workman :
03. Father's / Husband's Name :
04. Designation / Nature of employment :
05. Wage period and wages payable :
06. Date and amount of advance given :
07. Purposes (s) for which advance made :
08. No. of instalments by which advance to be repaid :
09. Date and amount of each instalment repaid :
10. Date on which instalment was repaid :
11. Remarks :

**CONTRACTOR**

**FORM - XXIII**

**(See Rule 78(1) (a) (iii) of Tamil Nadu Contract Labour Rules)**

**Register of Overtime**

Name and Address of the Contractor :

Nature and location of work :

Name and address of establishment in/under  
which contractor is carried on :

Name and address of Principal Employer :

01. Serial Number :

02. Name of workman :

03. Father's / Husband's Name :

04. Sex :

05. Designation / Nature of employment :

06. Dates on which overtime worked :

07. Total overtime worked or production  
in case of piece -rated :

08. Normal rate of wages :

09. Overtime rate of wages :

10. Overtime earning :

11. Date on which Overtime wages paid :

12. Remarks :

**CONTRACTOR**

# PAYMENT CERTIFICATE

## FORM "A"

Certified that :

1. I as contractor of .....  
have made payment to all contract Labourers in full in respect of contract  
No. .... as per terms of my contract  
and in no case less than the rates applicable upto the period ending.
2. The above payment have been made by me in the presence of the au-  
thorised representative of .....  
of ..... for .....  
Employees amounting to Rs .....
3. The necessary payment registers attendance register / Form 12 . Leave  
register / book under Laboure and industrial Law and other relevant records  
have been maintained by me and available with me for production as and  
when required .
4. No payment is due / outstanding to any contract Labourers engaged by  
me in respect of the aforesaid contract upto the period ending  
.....

### CONTRACTOR

NAME :  
DATE :

### SUPERVISOR

NAME :  
DESIGN :  
DATE :

COUNTERSIGNED  
OFFICER INCHARGE

NAME :  
DESIGN :  
DEPT. :

CONTRACTOR

**ANNEXUR II**  
**SAFETY RULES**  
**(See Condition 2)**

**A BHEL SAFETY CODE**

**A**

1. Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground, or from solid construction except such short period of work as can be done safely from ladder. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and handholds shall be provided on the ladder and the ladder shall be give an inclination not steeper than  $\frac{1}{4}$  to 1 ( $\frac{1}{2}$  horizontal and 1 vertical)
2. Scaffolding or staging more than 3.25 metres above the ground or floor, swing or suspended from an overhead support or erected with stationary support, shall have a guard rail properly attached, bolted braced and otherwise secured atleast 1 metre high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platform, gangways and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangway or stairway is more than 3.25 metres above ground level or floor level it shall be closely boarded, have adequate width and be suitably fenced, as described in 2 above.
4. Every opening in floor of a building or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of 1 metre.
5. Safe means of access shall be provided to all working platform and other working places. Every ladder shall be securely fixed, no portable single ladder shall be over 9 metres in length. Width between side rails in a rung ladder shall in no case be less than 30 cm for ladders upto and including 3 metres in length, For longer ladder this width shall be increased by atleast 6mm for each additional 30cm of length. Uniform step spacing shall not exceed 30cm.

Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and light to protect public from the accident and shall be bound to bear expenses of defence of every suit-action or other proceeding at law that may be brought by any person for injury sustained owing to neglect of the above precautions, and pay any damages and cost which may be awarded in any such suit, action or proceeding to any such person or which may with the consent of the contractor be paid to compromise any claim by such person.

## 6. Excavation and Trenching

All trenches 1.5 metres or more in depth, shall at all time be supplied with atleast one ladder for each 30m length or fraction there of ladder shall be extended from bottom of trench to atleast 1 metre above surface of the ground . Sides of the trench 1.5 metres or more in depth shall be stepped back to give suitable slope or securely held by timber bracing,so as to avoid the danger of sides collapsing . Excavated materials shall not be placed within 1.5 metres of the edge of trench or half the depth of trench, whichever is more. Cutting shall be from top to bottom under no circumstances shall under mining or under - cutting be done.

## 7. Demolition :

Before any demolition work is commenced and also during the progress of work.

- a) All roads and open areas adjacent to the work site shall be closed or suitably protected .
  - b) No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.
  - c) All practical steps shall be taken to prevent danger to person employed from the risk of fire or explosion ,or flooding no floor , or roof or other part of building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipment as considered adequate by the Engineer-in-charge shall be /available for use of person employed on the site and maintained in a condition suitable for immediate use and the contractor shall take adequate steps to ensure proper use of equipment by those concerned.
- a) Workers employed on mixing asphaltic materials cement and lime mortars concrete shall be provided with protective footwear and protective gloves.
  - b) Those engaged in handling any material which is injurious to the eye shall be provided with protective goggles.
  - c) Those engaged in welding work shall be provided with welder's protective eye shells
  - d) Stone breaker shall be protective goggles and protective clothing and seated at sufficiently safe intervals.
  - e) When workers are employed in sewers and manholes which are in use , the contractor shall ensure that manhole covers are opened and manholes are ventiled atleast for an hour before the workers are allowed to get into them manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to public.
    - i) No paint containing lead or lead products shall be except in the form of paste or ready-made paint.
    - ii) Suitable face masks shall be supplied for use by workers when paint applied in the form of spray or surface having lead paint is dry rubbed and scrapped .

f) The contractor shall not employ men below the age of 18 and women on the work of painting with products containing lead in any form. Whenever men above the age of 18 are employed on the work of lead painting the following precaution shall be taken :

A f i) No paint containing lead or lead products shall be used except in the form of paste or ready-made paint.

ii) Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or surface having lead paint is dry rubbed and scrapped

iii) Overalls shall be supplied by the contractor to workmen and adequate facilities shall be provided to enable working painters to wash during or cessation of work.

9. When work is done near any place where is risk of drowning ,all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision made for prompt first aid treatment of all injuries likely to be sustained during the during the course of the work.

10. Use of hoisting machine and tackles including their attachments,anchorage and support shall conform to the following

a)

i) These shall be of good mechanical construction, sound materials and adequate strength and free from defects and shall be kept in good working order.

ii) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength and free from defects.

b) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 yrs shall be incharged of any hoisting machine including any scaffolding winch or give signals to operator.

c) In case of every hoisting machine and or every chain ,ring , hook, shackle swivel and pull block used in hoisting or lowering as means of suspension safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall have the safe working load plainly marked there on. In case of a hoisting machine having a variable safe working load,each safe working load at the condition under which it is applicable shall be clearly indicated. No part of any machine or gear referred to above in this paragraph shall be loaded be yond the safe working load except for the purpose of testing.

d) In case of department machine ,safe working load shall be notified by the Engineer-in-charge. As regards contractor's machine the contractor shall notify safe working load of each machine to the Engineer-in-charge when ever he brings it to site of work and get it verified by the Engineer-in-charge.

11. Motors , gearing , transmission electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards, hoisting appliances shall be provided with such means as will reduce to the minimum risk of accident descent of load . Adequate precaution shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energised insulating mats, working apparel such as gloves, sleeves and boots as may be necessary shall be provided. Workers shall not wear any rings watches ,carry keys or other materials which are good conductors of electricity.
12. All scaffolds , ladders and other safety devices mentioned or described here in shall be maintained in a safe condition and no scaffold , ladder or equipment shall be altered or removed while it is use. Adequate washing facilities shall be provided at or near the places of work.
13. These safety provision shall be brought to the notice of all concerned by display on a notice board at a prominent place at the workspot persons responsible for ensuring compliance with the safety code shall be named thereon by the contractor.
14. To ensure effective enforcement of the rules and regulations relating to safety precaution , arrangement made by the contractor shall be open to inspection by the Engineer-in-charge or his representation and the inspecting officers as defined in the contractor's Labour Regulations.
15. Notwithstanding to the above conditions 1 to 14, the contractor is not exempted from the operation of any other Act or Rule in force.

## **B. GENERAL SAFETY PRECAUTIONS TO BE FOLLOWED AT WORK SITES DURING EXECUTION**

The following safety measures should be strictly adhered to during execution of works at sites.

1. Providing the working platform with toe-board and handrail for continuous working at heights.
2. Providing safety belt and lifeline at all times for men working at heights.
3. Providing dust or fume respirator in places where dust and fume concentration exists
4. Providing goggles and welding screens.
5. Providing acid and alkali proof rubber gloves for handling acids, alkali and chemicals, which are corrosive.
6. Providing rubber gloves for working on electrical works.
7. Ensuring proper lashing of the components while being transported in vehicles.
8. The vehicles must have side supports or have body to support the materials conveyed.
9. The materials should not be allowed to extend or overflow the sides of vehicles.
10. Materials should not be allowed to overhang from the rear edge of the body of the vehicle.
11. Driver of the vehicle must possess license.
12. Vehicle must not be overloaded prescribed limits.
13. Red flags and lights for parts projecting from the body of the vehicle must be provided.
14. The speed restrictions within the factory must be strictly adhered to.
15. The gas cylinders must always be handled on trolleys or kept tied down not in use. They should never be rolled as Roller for conveying.
16. Cylinders should not be used without regulators.
17. All excavations may be barricaded and red belts/ lamps must be provided .
18. All electrical connections must be properly earthed.
19. No work should be taken up for execution inside shop floor, without obtaining necessary work permit.
20. Providing helmet for high level work.
21. The contractor should maintain a register regarding the driver license particulars.
22. All Personnel Protective Equipments (PPE) conform to standard specification as per the details given in the code of conduct.
  - (i) Safety helmets confirming to IS-2925: 1984
  - (ii) Safety Belts confirming to IS-3521: 1983
  - (iii) Safety Shoes confirming to IS-1989: 1978
  - (iv) Eye and face protection devices confirming to IS – 8520:1977 & IS – 8940:1978
  - (v) Hand and body protective devices confirming to: IS – 2573: 1975  
IS – 6994: 1973  
IS – 8807: 1978  
IS – 8519: 1977

Contractor including the subcontractors, agents and labours engaged on work are required to scrupulously adhere to the safety regulations, safety precautions and measures. Any violation thereof will invite punitive action being taken against them. Also contractors with frequent violations of safety regulations will not be entrusted with further work in this organization.

### **General:**

All tools, tackles, lifting appliances, material handling equipment, scaffolds, cradles, safety nets, ladders, equipment etc., used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained, before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item.

### **C. SAFETY PRECAUTION TO BE OBSERVED WHILE TRANSPORTING MATERIALS**

#### **I. Vehicle**

1. Vehicle carrying materials should have proper registration documents and must be produced on demand by our Security staff.
2. The light on right side i.e. over the driver's cabin shall be in working condition
3. Both the head light as well as park lamps must be in working condition.

#### **II. Movement of Vehicle**

1. The vehicle should not travel at more than 20KMPH in our premises.
2. The driver of the vehicle must possess heavy duty licence and produce on demand by the Security Staff.
3. Vehicles carrying inflammable liquids in the tanks containers should have grounding chain or the tank container should be coated with insulating materials to avoid static electricity.
4. In road junction , speed breaker and Railway crossing the speed should be lowered and vehicles should proceed cautiously.
5. The driving should be ' keep to the left ' at all places.
6. The vehicles should not parked on the road which could obstruct the vehicular traffic.
7. No person other than driver should be allowed to sit or stand on the prime mover or trailer.
8. The vehicle should pass only through the approved routes. Short cuts should be forbidden.
9. There must be a safe distance behind another moving truck.
10. The driver should avoid making quick starts, jerk stop or quick turns at excessive speed .

### III Shipping

1. Strong side supports should be provided on both sides of the trailer. The side supports should be fixed in such a way that it cannot be removed even temporarily.
2. Adequate packing must be given for easy slinging operations. The packing materials should be good enough to withstand the load.
3. The stacking of loads on the truck should be evenly placed. The load should not be heaped together or dumped over the chassis.
4. The load on the truck should not be beyond its standard capacity. The carrying capacity must be clearly marked on the trailers also.
5. The loaded materials should be fastened tightly with "WIRE ROPE". Manila rope or coir rope should not at all be used. There must be side packing such as gunny or rubber tyre between the sharp edges of the job and wire rope in order to avoid cut in the wire rope.
6. There must be minimum two fastening and it should be more in case of lengthier loads.
7. The wire rope should be in sound condition i.e there should not be links, knots or bristles etc.
8. The wire rope ends should be clamped with 'U' clamps.
9. The loose pieces should be bundled before loading on the truck.
10. There must be red flags or red lamps for the lengthly loads which extend beyond chassis.
11. The materials should not be stacked too high to avoid hitting against live electric lines.
12. The load should not be overhanging more than 0.9 metres from the end of body.
13. While transporting the scraps, there must be wire net cover to prevent falling of scrap.

### IV General

1. The vehicles should not be moved directly inside the production building in case the materials are to be unloaded there. But the vehicles should be parked outside the building and the driver should ascertain the passage as well as the unloading points, with the help of the shop officials. This will avoid the congestion or blocking of traffic in the gangway.

## **GENERAL AND SPECIAL SPECIFICATIONS**

### **1. Site Clearance**

All the area upon which the construction is to be carried out and areas which are required by the Contractor for his construction facilities are to be cleared off all rubbish and objectionable matter at Contractor's own cost. Trees, if any, shall not be uprooted or cut without the prior approval of the Engineer-in-charge. All spoils, unserviceable materials and rubbish shall be burnt or removed from site. Usable materials, saleable timber, fire-wood etc., shall be stocked properly at work site in the manner as directed by the Engineer-in-charge. The cost of clearing the areas shall be deemed to have been included by the tenderer in his general rate.

### **2. Earthwork for Foundations**

Earthwork excavation for foundations and filling in foundations shall conform to TNBP 23 and 24. The area to be excavated or filled in with excavated materials shall be clearly demarcated in the field by the Contractor. Excavation shall be done to lines and levels defined. Excavation shall be carried out to such widths, lengths, depths, profiles and grades as shown in the drawing or as may be specified by the Engineer – in – charge. Rough Excavation may be carried out up to a depth 15 cm less than the final level but the balance shall be excavated to precise level with special care. All soft pockets of soil met with even below the final level shall be removed and the excavation filled up as directed by Engineer-in-charge. The methods of excavation shall in every case be subject to the approval of the Engineer-in-charge and the contractor shall ensure the safety and stability of the excavations, being executed by him as well adjacent buildings, structures, services and other works in the vicinity of the site of work. Wherever necessary Engineer-in-charge may direct that the sides of the excavation should be timbered and shored at the contractor's own cost, adopting a proper method approved by the Engineer-in-charge. Notwithstanding the above, should any slip occur, the contractor shall remove all the slipped materials from the excavated pit, at his own cost. He shall also make good at his own all damages caused to the work as well as adjacent buildings, structures etc., as a result of the slip, referred to.

All excavation work shall be subject to inspection and approved by the Engineer-in-charge before any further works in the excavated areas allowed to commence. Should any excavation be carried out beyond the specified depth, the contractor should fill it up at his own cost with the same type and class of material as it is proposed to be laid over the excavated portion. No payment will however be made to the contractor on his account.

The contractor shall ensure that the excavations and the structures under construction are kept free from water logging at all stages of construction. He shall take all necessary precautions and implement measure so that ground water and water from other sources such as under ground streams, aquifers, springs, surface flows etc., are excluded effectively so as to ensure that the works are carried out in a reasonable dry conditions in accordance with the construction schedule. The contractor's quoted rate for excavation shall include charges for such dewatering also.

Back filling around the foundations, trenches, plinth and under the floor shall be done in accordance with TNBP 24 and 25. The finished level of the plinth filling shall be trimmed to the slope required to be given to the finished floor. No separate payment will be made for back filling in foundation with excavated earth as the rate quoted for excavation shall include charges for back filling, watering and consolidation of excavated earth in layers complete as per specifications unless otherwise stipulated in the tender schedule.

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### **Removal of Hard rock by Blasting**

This shall include all rock occurring in large masses which cannot be removed except by blasting. Blasting shall be done in conformity with TNBP 19 & 23 and as instructed by the Engineer-in-charge. When rock blasting has to be done adjacent to structures, the following precautions shall be observed.

- (1) All blasting should be completely muffled to prevent damage by flying pieces.
- (2) Blasting within 3 meters of the structures shall be avoided
- (3) No blasting should be done within 1.5 meters of concrete / masonry structures.
- (4) An isolated boulder extending under the existing structure but projecting within the area of blasting should be blasted.
- (5) The contractor shall be responsible for all damages caused by blasting and shall replace or repair the damaged structures at his own cost.

### **3. Plain and Reinforced Cement Concrete Works :**

All design and construction shall be performed in accordance with the Indian standard code of Practice for plain and reinforced concrete – IS 456 and TNBP 30. Any Special requirements noted on the drawings or bill of quantities shall govern over the provisions of this specifications. Controlled concrete shall be used wherever specified in the schedule of items complying with all requirements of IS : 456 and as per special specifications appended herewith.

The coarse aggregate to be used shall be of hard broken granite stone jelly of various sizes as specified under respective items in the Bill of Quantities, conforming to IS 383 latest edition. The Engineer-in-charge may require the contractor to carryout moisture content tests in both fine and coarse aggregates. For determination of moisture content IS – 2386 shall be referred to. The amount of water to be added shall be then adjusted to compensate for any observed variation in the moisture contents. Proper control of mixing water is deemed of paramount importance. Mixtures with automatic water measuring drums shall be used or else. Water should be measured by volume in calibrated buckets. All measuring equipments shall be maintained in a clean serviceable condition and the accuracy periodically checked and got certified by the Engineer-in-charge. The contractor shall carryout slump tests apart from taking test cubes at regular intervals. All such methods of sampling and analysis of concrete shall be in accordance with IS – 1199.

Mixing of concrete shall be strictly carried out in an approved type mechanical mixer. The mixing equipment shall be capable of combining the aggregates, cement and water within the specified time ( not less than 2 Minutes) into a thoroughly mixed and uniform mass and of discharging the mixture without segregation. Mixing shall be continued until there is a uniform colour and consistency. Concrete shall be handled from the place of mixing to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of any of the ingredients. Before depositing the concrete, all debris and dirt shall be removed from the space to be occupied by concrete. Concreting shall not be done unless the form work conform to the shapes, lines and dimension as shown in the drawings.

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Unless otherwise approved, concrete shall be placed on single operation to the full thickness of slabs and beams and similar members and not exceeding 1 metre deep in walls, columns and similar members. Concrete shall be placed continuously until completion of the part of the work between construction joints or as directed by the Engineer-in-charge. The concrete after being laid shall be compacted by means of vibrators of approved type under proper supervision as directed by the Engineer-in-charge. Care should be taken to avoid segregation and formation of air bubbles. The whole process starting from the mixing of concrete to the placing and compaction shall not take more than 20 minute and the process shall be completed before the initial setting takes place. Curing shall be accomplished in accordance with IS-456 by keeping the concrete covered with a layer of sacking, canvas or similar absorbent materials and kept constantly wet for the period as directed by the Engineer-in-charge.

### **Reinforcement**

All reinforcement shall be clean and free from pitting, loose mill-scales, dust, loose rust and coats of paint, oil or other coatings which may destroy or reduce bond. General construction details and workmanship relative to reinforcement including bar bends, lap splices and installation shall be in accordance with the IS-2502 as well as IS-456. All bars be bent as per the bar bending schedules indicated in the drawings or supplied separately relevant to particular drawing. The contractor shall in all cases verify himself the correctness of schedules, giving the number, length and the bending details of the bars. The numbers, sizes, shape and position of all the reinforcement shall, unless otherwise, directed or authorized by the Engineer-in-charge be strictly in accordance with the drawing. The reinforcement shall be adequately held in position by 18 / 20 SWG soft black annealed binding wire. The contractor must obtain the approval of Engineer-in-charge for the reinforcement placed, before any concrete is placed in the form. All reinforcing bars shall be so tied as to form a rigid cage to prevent displacement before or during concreting. Rate quoted for reinforcement should include cost of transporting M.S. Rods / CTD bars from BHEL Store to site of work, cleaning, cutting, bending, placing, binding with contractor's own binding wire and providing necessary cover blocks of concrete but excluding cost of steel which shall be supplied free of cost at BHEL Stores.

### **Form Work**

Form work shall conform to the shape, lines and dimensions of concrete and RCC structures as shown in the drawings and shall be well within the permissible tolerance. Form work for concrete shall be of plywood, steel, good seasoned timber or other approved materials, properly designed easy for removal and cleaning. They shall be of sufficient strength and rigidity to maintain their position and shape under loads incidental to placing concrete. The number of props, their sizes and dispositions shall be such as to able safely carry the full dead load area constructional loads. The arrangement and alignment of formwork shall be got approved by the Engineer-in-charge prior to concreting. However this shall not relieve the contractor from his responsibility for proper work and safety. Form work shall be sufficiently tight to prevent loss of cement slurry from the concrete. All joints and holes in the form work shall be caulked with putty jute cloth or other approved materials to the satisfaction of the Engineer-in-charge. The stripping time for the shuttering and the formwork shall in general conform to the provisions in the relevant clauses of IS 456. Unless otherwise specified rates for reinforced cement concrete shall include cost of centering, shuttering charges also.

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## **Expansion and Other Joints**

Expansion Joints in concrete structures shall be provided at specified places as indicated in the drawings. The material shall be as specified by the Engineer-in-charge, expansion joints, with or without metal strip shall be as shown on drawings the filler shall be "EXPANDEX JOINT FILLER" premoulded non – extrudent type fibrous joint filler impregnated with bitumen conforming to IS : 1838 – 1961. The filler shall be durable, water proof, compressible and shall have a high degree recovery after compression is released, ensuring thereby that no free space develops in the expansion joints. The top 25 mm, or as specified in the drawings, shall be sealed with "SHALITEX SEALING COMPOUND" or equivalent after application of approved primer.

## **4. Stone Masonry**

General : Stone masonry shall conform to TNBP 35. Stone shall be obtained from the approved quarry and shall be free from decay and weathering.

All stones shall be thoroughly wetted before use. The mortar used for jointing shall be as specified under the respective items of the ' Bill of Quantities'.

The walls shall be carried up truly plumb. Every stone shall be carefully fitted to the adjacent stones so as to form neat and closed joints.

To give sufficient lateral bond, vertical joints shall be avoided. Prescribed number of headers as required shall be provided to give sufficient transverse bond. At junctions of wall the stones each alternate course shall be so carried into each of the respective walls as to unite the work thoroughly. Where breaks are unavoidable in carrying up the work continuously in horizontal course sufficiently long steps shall be left to joint the old and new work building of two thin faces and filling up the middle with small stuff or dry packing shall be strictly avoided. When plastering or raised pointing is not required to be done joints shall be struck flush and finished simultaneously.

### **Coursed Rubble Masonry**

Coursed rubble masonry shall conform to TNBP 35-H, I and J. Faces shall be accurately squared and all face joints shall be dressed at right angles. This bushing on the facing stones shall not project more than 38mm.

Face stones shall be laid alternate headers and stretchers. Depth of each course shall not be less than 150 mm. No course shall be greater than any course below. The height shall not exceed the breadth of stones of face. No stone shall tail into the wall less than its height. No pinning shall be allowed on the face. The stones shall be solidly bedded set full in mortar with joints not exceeding 12 mm in thickness.

### **Random rubble masonry**

Random rubble masonry work shall conform to TNBP 35-L and J. Stones shall be hammer dressed at faces and joints to enable them to come into close proximity with each other. The face stone shall be laid headers and stretchers alternately, so as to break joint by at least 75mm. Thickness of joint shall not exceed 12mm. No pinning shall be used on the face and face stone shall extend well back into the headers. Stones less than 130 mm. in height shall not be used on the face.

Bond stones running through the wall shall be provided at 1.8M intervals in walls up to 0.60 M. thickness and if the wall is more than 0.60 M. thick a line of headers shall be laid from face to back each header overlapping the other by at least 150 mm.

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## **5. Brick Masonry :**

First class Bricks : Brick shall be sound, hard, tough, rectangular in shape and size, well burnt of uniform deep red or copper colour and conform to IS – 1077.

Brick shall be free from cracks, chips, flaws, stone or humps of any kind. Bricks shall be homogeneous in texture and emit a clear ringing sound on being struck and shall have a minimum compressive strength of 70KG / sq.cm. and shall not absorb water more than 20% of its weight, when soaked cold water for 24 Hrs. All bricks shall be table moulded.

Second Class Bricks : These shall be ground moulded but should otherwise conform to the specifications of first class bricks except for some surface cracks are allowable. These shall have minimum compressive strength of 70 Kg./sq.cm.

Samples of each type of brick, shall be got approved by the Engineer-in-charge before being used. All subsequent deliveries shall be up to the standards of the approved samples.

Brick work shall conform to TNBP31 and IS –2212.

Brick works shall be classified as first or second class according to the classification of bricks used and the method of laying. The thickness of joints shall not exceed 6 mm. In first class brick work and 10 mm in second class brick work.

Unless otherwise specified in the Bill of quantities standard metric bricks of size 19cm X 9 cm X 6 cm. shall be used.

Bricks shall be well soaked before use on works for at least 6 hrs. The soaked bricks shall be kept on wooden planks or platform. Brick required for masonry with clay or lime mortars shall not be soaked.

Brick work shall be laid with specified mortar to be prepared in accordance with IS –2250. Brick works shall be laid in English Bond unless otherwise specified. Half or cut bricks shall not be used except when needed to complete the bond. Each course shall be taken up truly plumb, if battered, the batter is to be truly maintained. The level of brick work shall be checked up at every one metre interval. Bricks shall be laid with frogs upward, while laying bricks shall be thoroughly bedded and flushed in mortar and taped into position with a wooden mallet and the superfluous mortar removed. Walls of all structures shall be carried up regularly in all cases, leaving no part, one metre lower than the other. Where the masonry of one part has to be delayed, the work shall be raked back according to bond ( and not toothed ) an angle not exceeding 45 Deg. But the raking back should not start within 60cm. of a corner vertical joints in alternate courses shall come directly over one another. The brick work shall not be raised more than 14 courses per day. All iron fixtures, pipes, conduits, drains, sleeves, bolts, holdfasts of doors and windows etc. which are required to be built in walls shall be embedded in cement mortar or cement concrete as specified, in their correct position as the work proceeds.

### **Joints**

Joints shall be restricted to 6 mm in first class brick work and 10mm in second class brick work. All bed joints shall be normal to the pressure upon them, radial in arches and at right angles to the face in battered retaining walls. Care shall be taken that all joints are fully mortared ( proportion as specified in the schedule items ) well flushed up and in case where no pointing to be done, neatly struck at the work proceeds. The joints in faces which are to be plastered or pointed shall be squarely raked out to a depth of 12 mm while the mortar is still green. The raked joints shall be well brushed to remove loose particles. After the work the faces of work shall be cleared well by brush so as to remove any splashed mortar during the course of raising the brick work.

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## **Curing**

Green work shall be protected from rain by suitable covering. Masonry work shall be kept thoroughly well watered on all faces for atleast 10 days after completion. In case of fat lime mortar curing shall commence two days after laying of masonry and shall continue for seven days.

## **6. Scaffolding**

Scaffolding will generally be single but may be double if warranted for the particular work as approved by the Engineer-in-charge. The contractor shall take all measure to ensure safety of work and the working people.

Payment for brickwork shall be made on cubic metre basis on the volume of actual work done. Half brick wall and brick on edge wall shall be paid on square metre basis. The rate of brick work shall include scaffolding and all items mentioned above and no extra payment will be made for cutting bricks if required either for openings or for rounding or insertions or for recesses at the time of brick wall construction.

## **7. Damp Proof Course**

Damp proof course shall either be with cement concrete or with cement mortar of specified thickness as mentioned in the relevant item of schedule. Damp proof course shall not be carried across doorways. It shall be laid for all walls except verandah retaining wall or for particular wall only directed by the Engineer-in-charge. It shall be laid flush with floor level or as instructed by the Engineer-in-charge.

Damp proof course with cement concrete shall be of 25 or 38 mm thick in cement concrete M-150/M-200 as specified using 12mm. and down size aggregate well rammed and smoothed with trowel. It will be kept wet for 40 hours and after it has dried, two coats of hot bitumen shall be applied over it and allowed it to dry after which sand shall be sprinkled over it.

Damp proof course with cement mortar shall be 12 or 20 mm thick in cement mortar 1:3 well mixed with crude oil at 5% by weight of cement used.

## **8. Cement Plastering :**

Cement plastering shall be in accordance with IS – 1661 and TNBP –56 & 57, Cement mortar shall conform to IS – 269. The mortar of specified mix and thickness shall be used.

The surface to be plastered shall be thoroughly cleaned so that it is free from dust, oil, salts etc., The joints of masonry shall be raked out to a depth of atleast 12 mm. On cement concrete surfaces the surface shall be cleaned with wire brush and scarified by lines with trowel or hacking done. The surfaces in both cases shall be washed properly and kept wet for 4 hours before plastering is commenced.

Plastering shall be started from top and gradually worked down towards the floor. It shall not at any place be thinner than specified. To ensure even thickness plaster of about 15 cm X 15 cm shall be first applied horizontally and vertically at not more than 2 metres intervals over the entire surface to serve as gauges. The surface of these gauges shall be truly in the plane of finished surface. The mortar shall then be laid in the wall or other surfaces between the gauges and finished even. All corners shall be rounded to a radius of 24 mm unless otherwise directed. The contractor shall not be paid for any extra thickness of plaster done than as specified.

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Plaster, when more than 15 mm thick shall be applied in two coats, a base coat followed by the finishing coat. Thickness of the base coat shall be just sufficient to fill up unevenness in the surface, no single coat, however, shall exceed 12mm in thickness. The under coat shall be roughened or scratched before it is fully hardened.

Curing shall start 24 hours after the plaster is laid. It shall be kept wet for 14 days. During this period it shall be suitably protected from all damages at the contractor's cost by such means as approved by the Engineer-in-charge.

Any cracks which appear in the surface shall be cut out in rectangular shape and redone as directed by the Engineer-in-charge. Wherever specified standard waterproofing compound as approved by the Engineer-in-charge shall be added to the mortar at the rate of 2% or as specified by the manufacturer by the weight of cement for which the rate shall be paid separately. The rate for plastering shall include cost of scaffolding, swing etc., needed for the work with labour and material all complete.

#### **9. Steel Door, Windows and Ventilators :**

All steel doors, windows and ventilators shall conform to IS – 1038, IS – 1361 and IS 1081 or equivalent as mentioned in the bill of quantities and as approved by the Engineer-in-charge.

Rolled steel sections shall conform to Is – 226. The sections shall be cold straightened and finished goods shall be free from bends and other defects. Materials used in the fabrication shall be the best procurable and conforming to relevant IS specification. Thickness and specification of the glass to be provided shall be as indicated in the relevant item of the bill of quantities. Glass shall be free from flaws, specks, bubbles, etc., Bolts, nuts, screws, peg stays and other mild steel fittings shall be treated for corrosion as per relevant Indian Standards. Putty for glazing shall conform to IS – 420.

Doors, windows and ventilators, etc., shall be truly square and free from twist and warp. They shall be constructed of sections which have been cut to the required lengths and welded or rivetted at the corners as per standard specifications.

All steel surfaces shall first be thoroughly cleaned free of rust scale or dirt and mill scale by approved means and shall be painted with one coat of approved primer conforming IS – 102 before despatch. Alternatively if specified they may be galvanised by the "Hot dip" zinc spray or electro galvanising process described IS – 1361. Doors, windows and ventilators shall be fixed in positions, as specified under IS 1081.

Whenever contractor is required to supply the doors, windows and ventilators etc., he shall first submit to the Engineer-in-charge, the details about source of supply, detailed drawing and specifications etc., for prior approval.

#### **10. M.S Rolling Shutters :**

It shall be of approved quality, made out of 18 gauge 75 mm black laths mechanically operated by reduction gear type mechanism. It shall be fitted with two self-aligning ball bearing with locking arrangements (both inside and outside) including M.S pressed side guides bottom rails brackets and top rolling spring pressed etc., complete provided with locking arrangements for padlocks, pulling hooks, handles, top cover etc., It shall be painted with one coat of approved primer conforming to IS – 102 before despatch.

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## **11. Wooden Doors, Windows and Ventilators :**

All wood work for doors, windows, ventilators cup board, shelves, etc., conform to relevant IS specification and TNBP 82 and shall be well seasoned teak wood or well seasoned country wood (pillamarudu or karumarudu) as the case may be. Timber shall be best quality and shall be free from knots, injurious open shales, bore holes, decay, soft or spongy spots, hollow pockets and all other defects and blemishes. Timber shall conform to IS 1003 (Part 1) 1966. Size of doors, windows and ventilators shall as specified in the relevant item of schedule and detailed drawings and generally in conformity with IS – 1003, part I and part II of 1966. The rates for doors, windows and ventilators etc., shall be for the finished work inclusive of fixing them in position with necessary iron hold fasts and furniture fitting of oxidized iron or aluminium or oxidized brass as stated in the description of the relevant items of the bill of quantities and as directed by the Engineer-in-charge. Fittings and furniture shall be of best quality and machine made and robust type. Wherever glazed shutters are to be provided, the cost of glass panes of specified thickness and fixing them in position should be included in the quoted rate. All glass shall be of superior quality from approved manufacturer. In case of solid core flush doors, they should conform to IS:2202 Part I and Part II. The flush door shutters should have a finished thickness as specified in the scheduled item. Flush door shutters shall be obtained from firms of repute as approved by the Engineer-in-charge.

## **12. ROOFING : (A) R.C.C Slabs :**

Roof slab shall be of RCC of specified mix conforming to IS : 456, with adequate main tensile, transverse and adhesive reinforcement of ribbed steel bars of mild steel rounds. Unless otherwise mentioned the rates for RCC slab shall include cost of concrete, centering and shuttering charges, vibration charges, rounding of corners, curing and finishing etc., complete. Expansion joints in reinforced cement slabs shall be as per TNBP 30.

The ceiling should be finished as per Clause 30 of TNBP. No extra payment shall be made towards cost of ceiling plaster necessitated on account of defective centering materials used or poor workmanship.

The top of roof slab shall be finished with weathering course treatment if so specified. The weathering course work shall conform to TNBP 44-HJ and consist of concrete with broken brick in neat slacked lime of specified thickness finished with one course of pressed split tiles / pressed tiles of specified thickness and size as described in the bill of quantities.

## **(B) Roofing and Side Cladding with A.C. sheets :**

The A.C. sheets shall be of specified and approved quality and shall conform to IS 459- 1962 in all respects. The sheet shall be laid with the smooth side upwards and with a minimum end lap of 15cm. and for every flatter slopes this should be 20cm. The laying operation shall include scaffolding works involved. Sheets shall be secured to the purlins by means of 8mm galvanized iron J or L hook bolts and nuts. The grip of the hook bolt on the side of the purlin shall be not less than 25mm. Each bolt shall have a bitumen washer and galvanized iron washer placed over the sheet before the nuts are screwed down from above. Hole for hook bolts etc., shall be drilled and not punched in the ridges of the corrugations in the exact positions. The diameter of these holes shall 1.5 mm more than the diameter of the fixing bolts. The payment will be square metre basis of the laid area.

## **13. A.C. Rain Water Pipes**

The pipes shall be of standard quality conforming to IS 1628 – 1960. These shall be straight, true smooth and regular in thickness. They shall be free from cracks and other flaws. The supply shall include all necessary pipe fittings and accessories.

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All pipes shall be fixed to wall or columns by standard M.S butt holder clamps of approved make. The spigot of the upper pipe shall be properly fitted into the socket of the lower pipe, such that there is uniform annular space for filling with the jointing materials. One third depth of this annular space is to be filled with spun yarn soaked in bitumen of approved quality and properly pressed with caulking tool. The remaining two, third depth of the joint is to be filled with Cement Mortar 1:2 ( 1Cement : 2 coarse sand) and shall be pressed with caulking tool and finished smooth at the top at an angle of 45 Deg. sloping up.

The rate shall include supplying and fixing pipes with specials and accessories, including sizing as required, jointing, testing, cutting of walls and making good necessary scaffolding etc., complete.

#### **14. Flooring :**

Flooring shall consist of a base course of cement concrete of specified thickness and proportion laid over the compacted earth or sand filling as specified and a finishing layer of concrete, mosaic, glazed tiles or any other material as specified to be laid. Flooring work for Factory shop floors as well as mosaic flooring shall be done as per the special specifications.

The bed flooring shall be prepared either level or sloped as per relevant drawing or as instructed by the Engineer-in-charge. Filling in basement with earth or sand shall be in accordance with TNBP 25. On the prepared bed, cement concrete of specified mix and thickness shall be laid and well consolidated.

#### **A. Ellispattern, 1<sup>st</sup> Sort Flooring**

On the clean wet surface of the concrete base before it has set, will be laid a layer of cement concrete to give a finished depth of 20/25 mm over the base concrete. The cement concrete will be of 1:3 proportion (one cement and 3 hard broken stone chippings 3 to 10 mm Size). To make a coloured floor red oxide iron powder or other approved materials should be mixed with cement at the rate 10% of the weight of cement or as directed by the Engineer-in-charge. Ellis pattern flooring shall be done as described under clause 41-G of TNBP.

#### **B. Glazed Tile Flooring**

The tiles shall be of ceramic white or coloured and of specified dimensions as described in the schedule item. The top surface of tiles shall be glazed with a neat finish of uniform colour and texture and free from flaws, cracks, craze, specks or other imperfections. Tiles shall be true and shape with straight edges, non-absorbing and non – fading. Samples of tiles together with manufacturer's literature shall be submitted to the Engineer-in-charge for approval. Tiles shall conform to IS 177 latest.

Over the prepared surface of the floor a bedding layer of Cement Mortar (1:3) of specified thickness shall be laid-in-proper level and slope using screed patterns. The bedding layer shall be deeply scratched while it is set. A mortar set bed of 6mm thickness in cement lime mortar 1:1:3 ( one cement one lime putty and three sand ), shall be laid over the bedding layer. After mortar setting, bed has been leveled, a skin of neat cement shall be trowelled to the mortar setting bed immediately before the tiles are set. As soon as the mortar setting bed has sufficiently hardened, all tiles shall be finally secured in place and gently beaten in and finished surface brought to desired level. When grouting the glazed tiles, special care shall be taken to prevent scratching of the glazed surface. Joints shall be pointed with white or coloured cement to match the tile surface and cured. No joint shall be more than 1.5 mm thick.

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## **15. White Washing and Colour Washing**

White washing and colour washing shall be done as per clauses 63 and 64 of TNBP. The surface shall be thoroughly cleaned off mortar drops and foreign matter. All patchings must be scraped properly. The white washing shall be done from pure shell lime. Samples of lime shall be got approved by the Engineer-in-charge. The wash shall be applied with a brush, the coats being laid on vertically and horizontally alternatively, each coat being allowed to dry before next coat is applied. For colour washing the desired shade shall be obtained by mixing approved quantity of colouring matter or distemper with shell lime solution and applied as per white. The contractor shall take every precaution to prevent white wash being splashed on wall, floor and other places and articles not to be white washed. No colour wash shall be done unless a sample pattern of the mixed colour has been approved by the Engineer-in-charge. The rates shall be inclusive of scaffolding charges, cost of ladder etc.,

## **16. Painting**

All painting work shall be done in accordance with TNBP-66 and the relevant Indian Standard Specifications. Paints, varnishes, cement paints etc., shall be the highest grade products of well known approved manufacturer and shall be delivered to site in original sealed containers. It is desired that materials of one manufacturer only shall be used as far as possible. Colours shall be uniform and nonfading. Samples of all colours selected shall be submitted to the Engineer in charge for approval before bulk purchase is made. All finished work shall match corresponding samples kept with the Engineer.

### **Preparation of Surface :**

Before painting wooden surfaces, protruding timber fibres shall be removed and nail marks shall be covered with putty. The surface shall be thoroughly cleaned and sand prepared. In case of steel work it shall be scraped, well brushed and cleaned free of rust, scale dirt. Base preparation for painting concrete, masonry and plastered surfaces shall be carried out as per IS 2395 – Part I of 1966. Before actually proceeding with the work of painting the concrete, masonry and plastered surfaces, it shall be verified that the surfaces shall be completely dry, free from efflorescence and alkaline effect.

### **Application**

The primer shall be applied with brushes and spread as evenly and as smooth as possible. For steel work a priming coat of anti corrosive paint shall be applied. Painting shall be done by skilled labourers in a work-man like manner. All coats shall be of proper consistency and shall be well brushed out, so that no brush marks are visible. The under coating should be nearest to the specified colour of the finishing coat. Unless otherwise specified ready mixed synthetic enamel paints shall be used for painting, wood and steel work. Under coats should be completely dry before finishing coat is taken up. Priming coat and under coat shall be rubbed with sand paper and dusted clean. The finished coat of approved paint shall then be applied.

## **17. Cement Painting**

Cement Paint solution shall be applied to the surface with hair brushes in a number of coats to get uniform finish. After the first coat of paints has hardened, it shall be cured with water atleast for 24 hours. The surface shall be wetted again before the application of the second coat. Atleast 24 hours should lapse between the two coats, number of coats shall be as specified in the schedule of quantities. It shall be kept damp atleast for seven days.

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## 18. French Polish

French polish to be used shall comply with IS 348. Polishing shall be obtained by dissolving 1 lbs. of shellac in one gallon of methylated spirit without applying any source of heat. After the shellac has dissolved  $\frac{1}{4}$  lbs of cobalt,  $\frac{1}{4}$  lbs of lobano and 0.4 oz of crystals of desired pigment shall be added. The solution shall be applied with a pad of fine muslin cloth tied as per general practice. The pad shall be dipped into the solution and wrung with fingers and be rubbed hard on the surface in this way, the first coat is to be given after this gets dried up, the successive coats shall be given in the same fashion till the mirror like surface is obtained. The wood to be polished shall be first applied with a filler composed of 1.25 Kg. of whiting mixed with one litre of methylated spirit and then sand papered when dry. The finished surface shall have uniform texture and gloss. Approved transparent sealer shall only be used in base preparation.

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| PART II - COMMERCIAL BID  |  |          |      |         |          |
|---|--|----------|------|---------|----------|
| BHARAT HEAVY ELECTRICALS LIMITED, RANIPET - 6                         |  |          |      |         |          |
| Name of work: Construction of Type E quarters along with Servant Qrs. |  |          |      |         |          |
| BILL OF QUANTITIES  |  |          |      |         |          |
| Part I: Construction Type E 2 Units                                   |  |          |      |         |          |
| NO  | CODE/DESCRIPTIONS  | QUANTITY | UNIT | RATE    | AMOUNT   |
| 1   | 2.8.1: Earth work in EXCAVATION IN FOUNDATION TRENCHES OR DRAINS ( not exceeding 1.5 m in width or 10 sqm on - plan) including dressing of sides & ramming of bottoms, lift upto 1.5m,including getting out the excavated soil and disposal of surplus excavated soil as directed,with in a lead of 50 m IN ALL KINDS OF SOIL.   | 104.63   | CUM  | 93.56   | 9789.18  |
| 2   | 2.28: Supplying and FILLING IN PLINTH WITH RIVER SAND under floors including watering, ramming, consolidating and dressing complete.   | 15.49    | CUM  | 213.28  | 3303.71  |
| 3   | 2.33: CLEARING GRASS AND REMOVAL OF THE RUBBISH upto a distance of 50 M outside periphery of the area cleared.   | 116.57   | SQM  | 0.89    | 103.75   |
| 4   | 2.7: Earth work in EXCAVATION OVER AREAS (exceeding 30 cm in depth,1.5m in width as well as 10 sqm on plan) including disposal of excavated earth,lead upto 50m and lift upto 1.5 m, disposed earth to be levelled & neatly dressed, in:   |          |      |         |          |
| a   | 2.7.1: Ordinary rock   | 74.26    | CUM  | 139.30  | 10344.42 |
| 5   | 2.37.2: Diluting and injecting chemical emulsion for post-constructional ANTI-TERMITE TREATMENT:- Along external wall below concrete or masonry apron using chemical emulsion @ 2.25 litre per linear metre including drilling and plugging holes etc., with:  |          |      |         |          |
| a   | 2.37.2.1: Chlorpyrifos / Lindane E.C 20% with 1% concentration.  | 354.39   | RMT  | 6.70    | 2374.41  |
| 6   | 2.37.3: Diluting and injecting chemical emulsion for post-constructional ANTI-TERMITE TREATMENT:- of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12mm dia. holes and plugging with cement mortar 1:2 (1 cement: 2 coarse sand) to match the existing floor with:    |          |      |         |          |
| a   | 2.37.3.1: Chlorpyrifos / Lindane E.C 20% with 1% concentration.  | 286.78   | SQM  | 32.60   | 9349.03  |
| 7   | 2.37.4: Diluting and injecting chemical emulsion for post-constructional ANTI-TERMITE TREATMENT: of existing masonry using chemical emulsion @ one litre per hole at 300mm interval including drilling holes at 45 degree and plugging them with cement mortar 1:2 (1 cement: 2 coarse sand) to the full depth of the hole with: |          |      |         |          |
| a   | 2.37.4.1: Chlorpyrifos / Lindane E.C 20% with 1% concentration.  | 120.16   | SQM  | 5.00    | 600.80   |
| 8   | 2.34 Felling trees of the girth (measured 1m above ground level) including cutting of trunks and branches removing roots and stacking the serviceable material and disposal of unserviceable material:   |          |      |         |          |
| a   | 2.34.1 Beyond 30 cm girth upto and including 60cm girth  | 12.00    | Each | 53.60   | 643.20   |
| b   | 2.34.2 Beyond 60 cm girth upto and including 120cm girth   | 10.00    | Each | 236.35  | 2363.50  |
| c   | 2.34.3 Beyond 120 cm girth upto and including 240cm girth  | 3.00     | Each | 1090.60 | 3271.80  |

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|----|--|--------|-----|---------|----------|
| 9  | 2.26 : Filling available excavated earth (excluding rock) in and around the plinth, trenches, sides of foundations, under floors, etc. in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering lead upto 50 m and lift upto 1.50 m .   |        |     |         |          |
| a  | !17.8&2.26: Earth , Moorum.  | 71.77  | CUM | 30.25   | 2171.04  |
| 10 | 4.25: Providing and laying DAMP PROOF COURSE 50MM thick with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size)  | 62.33  | SQM | 62.74   | 3910.58  |
| 11 | 4.5: Providing and laying in position CEMENT CONCRETE of specified grade excluding the cost of centring and shuttering for ALL WORKS UPTO PLINTH LEVEL, with:  |        |     |         |          |
| a  | 4.5.8: CC 1:4:8 (1 cement: 4 coarse sand: 8 graded stone aggregate 40 mm nominal size)   | 35.84  | CUM | 968.48  | 34710.32 |
| 12 | 4.16.1: Providing and fixing PRECAST CEMENT CONCRETE STRING OR LACING COURSES, COPINGS, BED PLATES, ANCHOR BLOCKS, PLAIN WINDOW SILLS, SHELVES, LOUVERS, STEPS, STAIR CASES, etc. in 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size), including hoisting and setting in position with cement mortar 1:3 ( 1 cement: 3 coarse sand ), cost of required centring, shuttering and finishing smooth with 6 mm thick cement plaster 1:3 (1 cement: 3 fine sand) on exposed surface complete, at level: (NOTE: Floor one level corresponds to plinth level) . |        |     |         |          |
| a  | 4.16.1: Upto floor five level  | 0.05   | CUM | 1862.22 | 93.11    |
| 13 | 5.3: REINFORCED CEMENT CONCRETE WORK IN BEAMS, LINTELS ETC, excluding the cost of centring, shuttering finishing & reinforcement with 1:2:4(1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size), at levels: (NOTE: Floor one level corresponds to plinth level) .  |        |     |         |          |
| a  | 5.3: Upto floor five level   | 2.58   | CUM | 1299.53 | 3352.79  |
| 14 | 5.3: REINFORCED CEMENT CONCRETE WORK IN SHELVES, CHAJJAS, BANDS, PLAIN WINDOW SILLS ETC., excluding the cost of centring, shuttering, finishing & reinforcement with 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size), at levels: . (NOTE: Floor one level corresponds to plinth level) .  |        |     |         |          |
| a  | 5.3: Upto floor five level   | 1.30   | CUM | 1299.53 | 1689.39  |
| 15 | 5.14: CENTRING and SHUTTERING including strutting, propping etc and removal of form in all floors; for: .  |        |     |         |          |
| a  | 5.14.3: Suspended floors, roofs, landings, balconies, loft and access platform etc. (Upto 3.5m floor height). (NOTE:- Floor height to be taken from finished floor level to finished slab bottom).   | 164.22 | SQM | 111.20  | 18261.26 |
| b  | 5.14.15: Small lintels not exceeding 1.5 M clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like.  | 32.25  | SQM | 61.10   | 1970.48  |
| c  | 5.14.19: Weather shade , chajjas, corbels, edges etc.  | 20.99  | SQM | 134.45  | 2822.11  |

|    |  |         |     |         |          |
|----|--|---------|-----|---------|----------|
| 16 | 5.19: Providing, hoisting & fixing PRECAST REINFORCED CEMENT CONCRETE WORK IN STRING COURSES, BANDS, COPINGS, BED PLATES, ANCHOR BLOCKS, PLAIN WINDOW SILLS AND THE LIKE including the cost of required centring, shutter- ing,finishing smooth with 6 mm thick cement plaster 1:3 (1 cement:3 fine sand) on exposed surfaces complete but excluding cost of reinforcement with 1:2:4 (1 cement: 2 coarse sand:4 graded stone aggregate 20mm nominal size) ; at levels: (NOTE: Floor one level corresponds to plinth level) .  |         |     |         |          |
| a  | 5.19: Upto floor five level  | 1.00    | CUM | 1909.72 | 1909.72  |
| 17 | 5.29: REINFORCEMENT FOR RCC WORK including straightening,cutting, bending, placing in position and binding all complete at all levels, with: .   |         |     |         |          |
| a  | 5.29.3: Cold twisted bars / HYSD bars etc. SLABS   | 1384.11 | KGS | 5.60    | 7751.02  |
| b  | 5.29.3: Cold twisted bars / HYSD bars etc. LINTELS   | 258.10  | KGS | 5.60    | 1445.36  |
| c  | 5.29.3: Cold twisted bars / HYSD bars etc - CHAJJA   | 77.64   | KGS | 5.60    | 434.78   |
| 18 | 5.42.2: Providing & laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering, finishing and reinforcements - including Admixtures in recommended proportions (as per IS 9103) to accelerate, retard setting of concrete improve workability without impairing strength and durability as per direction of Engineer-in-charge for M-20 grade reinforced cement concrete, etc. all work from plinth level upto floor five level, in : |         |     |         |          |
| a  | 5.42.2.2: Beams, plinth beams, girders, bressumers, cantilevers, suspended floors, lintels, roofs and staircase including spiral staircases, shelves etc.  | 23.07   | CUM | 1535.48 | 35423.52 |
| 19 | !6.1: Brick work with FPS BRICKS OF CLASS DESIGNATION 50 in cement mortar 1:6 (1 cement: 6 coarse sand), at all levels: (NOTE: Floor 1 level corresponds to plinth)  |         |     |         |          |
| a  | !6.1.14: Foundation and plinth   | 1.57    | CUM | 1142.90 | 1794.35  |
| b  | !6.1/3: Above plinth and upto floor five level .   | 66.22   | CUM | 1349.28 | 89349.32 |
| 20 | !6.18: HALF BRICK MASONRY WITH FPS BRICK OF CLASS DESI- GNATION 50 in cement mortar 1:4 (1 cement: 4 coarse sand), at levels: (NOTE: Floor one level corresponds to plinth level) .  |         |     |         |          |
| a  | !6.18/19: Above plinth and upto floor five level.  | 130.27  | SQM | 160.36  | 20890.10 |
| 21 | 6.18 : Half Brick masonry with FPS BRICKS OF CLASS DESIGNATION 75 IN FOUNDATION AND PLINTH, in:  |         |     |         |          |
| a  | 6.18.4: Cement mortar 1:4 (1 cement: 4 fine sand)  | 68.00   | SQM | 147.55  | 10033.40 |
| 22 | 7.1: RANDOM RUBBLE MASONRY with hard stone in FOUNDATION and PLINTH including levelling up with cement concrete 1:6:12 (1 cement: 6 coarse sand: 12 graded stone aggregate 20 mm nominal size) at plinth level, (with bond/through stones atleast 1 No. per 0.5 sqm of wall area), in :  |         |     |         |          |
| a  | 7.1.1: Cement mortar 1:6 (1 cement: 6 coarse sand) .   | 81.77   | CUM | 1048.05 | 85699.05 |

|    |  |        |     |          |           |
|----|--|--------|-----|----------|-----------|
| 23 | 8.2.6: Providing & fixing 18mm THICK mirror polished, machine cut for KITCHEN PLATFORMS, VANITY COUNTER FACIAS and similar locations of required size of approved shade, colour and texture liad over 20 mm thick base cement mortar 1:4 (1 cement: 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing etc complete at all lvls WITH GRANITE BLACK, of: |        |     |          |           |
| a  | 8.2.6.4: slab area 1.0 to 2.0 sqm  | 3.00   | SQM | 2584.23  | 7752.69   |
| 24 | 11.4 Cement concrete flooring 1:2:4 ( 1 cement: 2 coarse sand: 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete.  |        |     |          |           |
| a  | 11.4.3 40mm thick with 20mm nominal size stone aggregate   | 100.00 | SQM | 70.08    | 7008.00   |
| 25 | 9.87: Providing 40 x 5 mm flat IRON HOLD FAST 40 cm. long including fixing to frame with 10 mm dia. bolts, nuts and wooden plugs and embedding in cement concrete block 30 x 10 x 15 cms. 1:3:6 mix (1 Cement: 3 coarse sand:6 graded stone aggregate 20mm nominal size)   | 170.00 | NOS | 33.92    | 5766.40   |
| 26 | 9.1: Providing WOOD WORK IN FRAMES OF DOORS, WINDOWS, CLERESTORY WINDOWS and other frames, wrought framed and fixed in position, with:   |        |     |          |           |
| a  | 9.1.5: Second class deodar wood  | 0.80   | CUM | 35755.00 | 28604.00  |
| b  | 9.1.9: Kiln seasoned and chemically treated first class COUNTRY WOOD (like Hollock, Honne, Mathi, Nandi, Kail, etc. as directed).  | 0.71   | CUM | 23559.20 | 16727.03  |
| 27 | 9.4A: Providing and fixing laminated veneer lumber door shutter confirming to TADS 15:1995, manufactured in factories by approved manufacturers, including ISI marked black enamelled M.S. butt hinges with necessary screws as per directions of Engineer-in-charge and panelling with panes of :   |        |     |          |           |
| a  | 9.4A.2.1 12 mm thick prelaminated (with particle board decorative lamination on both sides) grade - 1, medium density flat pressed, three layer particle board FPT - 1 (like Novapan, Eco board etc.,) or graded wood particle board FPT - 1 (like Bhutan Board) IS: 3087 marked bonded with BWP type synthetic resin adhesive as per IS:848 and prelamination conforming to IS:12823 grade I, Type II. 35 mm thick shutters       | 140.00 | SQM | 1682.45  | 235543.00 |
| 28 | 9.6: Providing and fixing GLAZED SHUTTERS FOR DOORS, WINDOWS AND CLERESTORY WINDOWS using 10 kg/sqm (4 mm thick) glass panes including necessary cleats and black enamelled ISI marked M.S butt hinges (@ 4 Nos. 100 x 58 x 1.9mm per shutter) with necessary screws etc. of thickness and wood kind:  |        |     |          |           |
| a  | 9.6.3B: 35 mm thick, Second class teak wood .  | 30.63  | SQM | 1318.10  | 40373.40  |
| 29 | 9.7A Extra for providing frosted glass panes 10 Kg/Sqm (4mm thick) inseed of ordinary glass panes 10 Kg/Sqm (4 mm thick) in doors windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).   | 2.00   | SQM | 1.10     | 2.20      |

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|----|--|--------|------|---------|----------|
| 30 | 9.24: Providing & fixing ISI mark FLUSH DOOR SHUTTERS DECORATIVE TYPE, core of block board construction with frame of 1st class hard wood & well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters including ISI marked necessary cleats and Stainless Steel butt hinges (4 Nos 100x63x4mm per shutter) with necessary C.P. brass screws etc., of thickness: |        |      |         |          |
| a  | 9.24.2: 35 mm thick.   | 28.64  | SQM  | 1249.20 | 35777.09 |
| 31 | 9.61: Providing & fixing wooden moulded beading to door and window frame with iron screws, plugs & priming coat on unexposed surfaces etc. complete, with, :   |        |      |         |          |
| a  | 9.61.1.1: 50 x 12 mm, 2nd class teak wood .  | 183.08 | RMT  | 42.00   | 7689.36  |
| 32 | 9.85: Providing and fixing FLY PROOF GALVANISED M.S WIRE GAUGE TO WINDOWS AND CLERESTORY WINDOWS using galvanised M.S wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.63 mm and with:  |        |      |         |          |
| a  | 9.85.1: Second class teak wood beading, 62 x 19 mm.  | 3.50   | SQM  | 349.55  | 1223.43  |
| 33 | 9.150/150A: Providing & fixing IS:3564 marked UNIVERSAL HYDRAULIC DOOR CLOSER with necessary accessories and screws etc. complete of:  |        |      |         |          |
| a  | 9.150: Aluminium die cast body tubular type, Hardwyn make (Classic Queen) or equivalent  | 8.00   | NOS  | 517.10  | 4136.80  |
| 34 | Providing and fixing LOUVERS in aluminium or wooden door, windows, ventilators & partition frames with and including necessary aluminium U-channels, C.P. brass / stainless steel screws etc. complete, with:  |        |      |         |          |
| a  | 4mm thick, 100mm wide frosted (ground) glass louvers (inclined at 45 degree & spaced at 60mm c/c max)  | 26.00  | SQM  | 323.16  | 8402.16  |
| 35 | Providing and fixing nickel plated M.S. pipe curtain rods with nickel plated brackets.   |        |      |         |          |
| a  | 9.79A.2 25 mm dia heavy duty   | 6.00   | RMT  | 48.15   | 288.90   |
| 36 | 9.82: Providing and fixing M.S GRILLS OF REQUIRED PATTERN IN FRAMES OF WINDOWS etc. with M.S flats, square or round bars etc. including applying a priming coat of approved (zinc chromate) steel primer etc., all complete, and:  |        |      |         |          |
| a  | 9.82.1: Fixed to steel windows/ventilators by welding  | 513.82 | KGS  | 34.00   | 17469.88 |
| 37 | Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. all complete.  |        |      |         |          |
| a  | 9.82.2 Fixed to openings/wooden frames with rawl plugs screws etc.   | 150.00 | KGS  | 37.90   | 5685.00  |
| 38 | 9.218 Providing and fixing aluminium sliding door bolts ISI marked anodised (anodica coating not less than grade AC 10 as per 1868) transparent or dyed to required colour or shade with nuts and screws etc complete:   |        |      |         |          |
| a  | 9.218.2 250x16mm   | 96.00  | Each | 86.25   | 8280.00  |
| 39 | 9.219 Providing and fixing aluminium tower bolts ISI marked anodised (anodica coating not less than grade AC 10 as per 1868) transparent or dyed to required colour or shade with nuts and screws etc complete:  |        |      |         |          |
| a  | 9.219.2 250x10mm   | 80.00  | Each | 40.45   | 3236.00  |

|    |   |        |      |        |          |
|----|---|--------|------|--------|----------|
| b  | 9.219.3 200 x 10mm  | 80.00  | Each | 35.10  | 2808.00  |
| c  | 9.219.5 100 x 10mm  | 100.00 | Each | 22.25  | 2225.00  |
| 40 | 9.222 Providing and fixing aluminium handles ISI marked anodised (anodica coating not less than grade AC 10 as per 1868) transparent or dyed to required colour or shade with nuts and screws etc complete:   |        |      |        |          |
| a  | 9.222.2 100mm   | 80.00  | Each | 23.00  | 1840.00  |
| b  | 9.222.3 75mm  | 100.00 | Each | 19.35  | 1935.00  |
| 41 | 9.218 to 223: Providing & fixing ISI marked ALUMINIUM FITTINGS anodised (anodic coating not less than grade AC 10 as per IS:1868) transparent or dyed to required colour or shade with nuts and C.P. brass screws as required etc. complete, of type and size:  |        |      |        |          |
| a  | 9.223.1: HANGING FLOOR DOOR STOPPER: Single rubber stopper, (150 mm long)   | 17.00  | NOS  | 15.50  | 263.50   |
| 42 | 9.197 Providing and fixing chromium plated brass 100mm mortice latch and lock with 6 levers and a pair of lever handles with necessary screws etc complete (best make of approved quality).   | 8.00   | Each | 238.20 | 1905.60  |
| 43 | 9.142: Providing and fixing special quality bright finished BRASS CUPBOARD OR WARD ROBE LOCKS with four levers including necessary screws etc. complete (best make of approved quality) of size:  |        |      |        |          |
| a  | 9.142.4: 75 mm  | 8.00   | NOS  | 89.35  | 714.80   |
| 44 | 9.73A/74A: Providing and fixing 150 mm wide PELMET made of specified board including top cover of 6 mm commercial ply wood, nickel plated M.S pipe 20 mm dia. (1.25 mm thick heavy type) curtain rod with nickel plated brackets including fixing with 25 x 3 mm M.S. flat 10 cm. long and rawl plugs 50 mm long (designation 10 no.) etc. all complete, made from:   |        |      |        |          |
| a  | 9.73A: 18 mm thick, flat pressed three layer particle board of exterior grade (BWP) conforming to IS-3087 (particle board like Novapan, Ecoboard or graded wood like Bhutan Board)  | 200.00 | RMT  | 155.40 | 31080.00 |
| 45 | 11.73: Providing and fixing 1st quality ceramic tiles conforming to IS:13753 of minimum thickness 5mm of approved make like NITCO, ORIENT, SOMANY KAJARIA, or equivalent make in all colours, shades except begundy, bottle green, black of any size as approved by Engineer-in-charge in SKIRTING, RISERS OF STEPS, AND DADOS over 12mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cement slurry @ 3.3 kg per sqm including pointing in white cement mixed with pigment of matching shade complete. | 103.60 | SQM  | 373.30 | 38673.88 |
| 46 | 11.74: Providing and laying ceramic glazed FLOOR tiles 300x300mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS: 13755 of NITCO, ORIENT, SOMANY KAJARIA, or equivalent make in colours such as white, ivory, grey, fume red-brown, laid on 20mm thick cement mortar 1:4 (1 cement: 4 coarse sand) including pointing the joints with white cement and matching pigment etc. complete.  | 165.25 | SQM  | 478.90 | 79138.23 |

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|----|---|--------|-----|--------|----------|
| 47 | 12.33A: Providing and laying PRESSED CLAY TILES (as per approved pattern 20 mm nominal thickness and approved size) ON ROOFS jointed with cement mortar 1:4 (1 cement: 4 coarse sand) mixed with 2% integral water proofing compound laid over a bed of 20 mm thick cement mortar 1:4 (1 cement:4 coarse sand) and finished neat complete.  | 182.91 | SQM | 225.59 | 41262.67 |
| 48 | !25.8: Providing and laying INTEGRAL CEMENT BASED WATER PROOFING TREATMENT including preparation of surface as required for treatment OF ROOFS, BALCONIES, TERRACES etc. consisting of following operations: (A) Applying and grouting a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with proprietary water proofing compound conforming to IS:2645 over the RCC slab including cleaning the surface before treatment. (B) Laying cement concrete using broken bricks /brick bats 25 mm to 100 mm size with 50% of cement mortar 1:5 (1 cement: 5 coarse sand) admixed with proprietary water proofing compound conforming to IS:2645 over 20 mm thick layer of cement mortar of mix 1:5(1 cement: 5 coarse sand ) admixed with proprietary water proofing compound conforming to IS: 2645 to required slope. (C) After two days of proper curing, applying a second coat of cement slurry (@ 2.75 kg cement/ sqm.) admixed with proprietary water proofing compound conforming to IS:2645 over cement concrete and the adjoining walls upto required height. |        |     |        |          |
|    | (D) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement: 4 coarse sand) admixed with proprietary water proofing compound conforming to IS:2645 & treating similarly the adjoining walls upto 300 mm height (from finished level)including rounding of junctions of walls and slabs and finally finishing the surface with trowel with neat cement slurry and making of 300 x 300 mm square and nosing of junction between this treatment and other plaster on adjoining walls. (E) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as specified and directed by the Engineer-in-charge. (NOTE: Plan area to be measured for payment) (NOTE:Min.thk. at Khura: 65mm & surface gradient 1:100) (Note:Treatment to carry 10 year performance guarantee)  |        |     |        |          |
| a  | 25.8.1: For average thickness of 120 mm   | 177.53 | SQM | 287.02 | 50954.66 |
| 49 | 12.38: Providing GOLA 75 X 75 mm IN CEMENT CONCRETE 1:2:4 (1 cement: 2 coarse sand: 4 stone aggregate 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement: 3 fine sand) as per standard design:  |        |     |        |          |
| a  | 12.38.1: in 75 x 75 mm deep chase   | 29.91  | RMT | 34.01  | 1017.24  |
| 50 | 5.25 Providing PRECAST CEMENT CONCRETE JALLI in 1:2:4 (1 cement: 2 coarse sand: 4 stone aggregate 6 mm nominal size) reinforced with 1.6mm dia mild steel wire including centring and shuttering, roughening, cleaning fixing & finishing in cement mortar 1:3(1 cement:3 fine sand) etc. complete excluding plastering of the jambs, sills and soffits ; of:   |        |     |        |          |
| a  | 5.25.2: 40 mm thick.  | 4.00   | SQM | 213.64 | 854.56   |

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| 51 | 12.71: Providing and fixing M.S HOLDER BAT CLAMPS of approved design to CI/ SCI/ PVC rain water pipes embedded in and including cement concrete blocks 10x10x 10 cm. of 1:2:4 (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) and cost of cutting holes and making good the walls etc.   |        |     |        |          |
| a  | 12.71.2: 100 mm diametre   | 2.00   | NOS | 44.35  | 88.70    |
| 52 | 12.78: Providing and fixing on wall face RIGID UNPLASTICISED PVC RAIN WATER PIPES (working pressure 4 kg / sqcm) conforming to IS:13592 including jointing with 'T'shaped seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion. Single socketed pipes, of OUTER DIA.:  |        |     |        |          |
| a  | 12.78.1 75 mm diameter   | 12.00  | RMT | 73.70  | 884.40   |
| b  | 12.78.2: 110 mm (+0.4mm) (wall thk 2.5-3.0 mm) .   | 12.00  | RMT | 126.65 | 1519.80  |
| 53 | 12.79: Providing and fixing on wall face RIGID UNPLASTICISED P.V.C. MOULDED FITTINGS / ACCESSORIES ( working preasure 4 kg / sqcm. and wall thickness same as of main pipe) for unplasticised PVC RAIN WATER PIPES conforming to IS:13592 including jointing with seal ring conforming to IS:5382 leaving 10 mm gap for termal exp- ansion, of type and dia: (NOTE:i)concealed pipe joints to be jointed with rubber ring and solvent cement (ii) exposed pipe joints to be jointed with rubber ring and rubber lubricant) . |        |     |        |          |
| a  | 12.79.1 .1 Coupler 75 mm   | 2.00   | NOS | 63.00  | 126.00   |
| b  | 12.79.1.2: Coupler: 110 mm   | 1.00   | NOS | 81.81  | 81.81    |
| c  | 12.79.5.1 Bend 87.5 degree: 75 mm  | 4.00   | NOS | 71.90  | 287.60   |
| d  | 12.79.5.2: Bend 87.5 degree : 110 mm   | 4.00   | NOS | 109.58 | 438.32   |
| e  | 12.79.6.1: Shoe (plain) : 75 mm  | 4.00   | NOS | 121.90 | 487.60   |
| f  | 12.79.6.2: Shoe (plain) : 110 mm   | 4.00   | NOS | 215.13 | 860.52   |
| 54 | 13.20: Providing 18mm thick CEMENT PLASTER in TWO COATS under layer 12mm thick cement plaster 1:5 (1 cement: 5 coarse snad) and a top layer 6 mm thick cement plaster 1:3 (1 cement: 3 coarse sand) finished rough with sponge. (including providing necessary plaster grooves wherever required and for all exterior heights) .   | 3.75   | SQM | 57.38  | 215.18   |
| 55 | 13.24.1: Providing smooth finishing to the exposed surfaces of RCC/ CC works and ceilings with 6 mm thick CEMENT PLASTER of mix 1:3 (1 cement: 3 fine sand) .  | 179.42 | SQM | 30.52  | 5475.90  |
| 56 | 13.70.1: Providing WHITE WASHING with LIME to given an even shade on new work (three or more coats) .  | 187.54 | SQM | 4.65   | 872.06   |
| 57 | 13.77.2: Providing DISTEMPERING with OIL BOUND WASHABLE DISTEMPER of approved brand and manufacture to give an even shade on new work (two or more coats) over and including priming coat with cement primer .   | 380.65 | SQM | 29.70  | 11305.31 |
| 58 | 13.89: COAT TARRING two coats on new work using 0.16 and 0.12 litre coat tar per sqm. in the first coat and second coat respectively.  | 0.33   | SQM | 9.95   | 3.28     |
| 59 | 13.93.1: Providing and Painting with SYNTHETIC ENAMEL PAINT of approved brand and manufacture to give an even shade two or more coats on new work.   | 60.86  | SQM | 24.25  | 1475.86  |

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| 60 | 13.94.1: Providing and Painting with SYNTHETIC ENAMEL PAINT of approved brand and manufacture of required colour to give an even shade two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.                              | 51.38  | SQM | 37.35  | 1919.04  |
| 61 | 13.104.1: POLISHING ON WOOD WORK with ready made wax polish of approved brand and manufacture on new work.  | 80.26  | SQM | 26.10  | 2094.79  |
| 62 | 13.8: Providing 12mm thick CEMENT PLASTER (including providing necessary plaster grooves wherever required), of mix:  |        |     |        |          |
| a  | 13.8.4: 1:6 (1 cement: 6 fine sand)   | 90.64  | SQM | 34.76  | 3150.65  |
| 63 | 13.9: Providing 15mm thick CEMENT PLASTER (including providing necessary plaster grooves wherever required and for all exterior height) on rough side of single or half brick wall, of mix:   |        |     |        |          |
| a  | 13.9.4: 1:6 (1 cement: 6 fine sand)   | 284.38 | SQM | 39.96  | 11363.82 |
| 64 | 13.12: Providing 15mm thick CEMENT PLASTER (including providing necessary plaster grooves wherever required and for all exterior ht.) on rough side of single or half brick wall, of mix:   |        |     |        |          |
| a  | 13.12.2: 1:4 (1 cement: 4 coarse sand)  | 151.84 | SQM | 43.91  | 6667.29  |
| b  | 13.12.4: 1:6 (1 cement: 6 coarse sand)  | 2.76   | SQM | 43.10  | 118.96   |
| 65 | 13.16: Providing 20mm thick CEMENT PLASTER finished with a floating coat of neat cement ( @ 2.2 kg/sqm ), of mix:   |        |     |        |          |
| a  | 13.16.2: 1:4 (1 cement: 4 fine sand)  | 20.99  | SQM | 55.07  | 1155.92  |
| 66 | 13.64: POINTING on STONE WORK with cement mortar 1:3 (1 cement: 3 fine sand), type:   |        |     |        |          |
| a  | 13.64.2: Ruled pointing   | 41.14  | SQM | 42.56  | 1750.92  |
| 67 | 13.79B: Finishing wall with Acrylic Smooth exterior paint "Trump" of M/s. Snowcem India Ltd. or equivalent of required shade for:   |        |     |        |          |
| a  | 13.79B.1: NEW WORK (two or more coats applied @ 1.67 ltr/10 sqm) over and including base coat of water proofing cement "Snowcem Plus" or equivalent applied @ 2.2 kg/10 sqm.  | 380.81 | SQM | 40.85  | 15556.09 |
| 68 | 13.77A: Providing DISTEMPERING with FIRST QUALITY ACRYLIC WASHABLE DISTEMPER ( ready made ) of approved manufacturer and of required shade and colour, complete as per manufacturer's specification, on: .  |        |     |        |          |
| a  | 13.77A.1: New Work (Two or more coats)  | 2.24   | SQM | 16.18  | 36.24    |
| 69 | 13.79: Providing and Finishing walls with WATER PROOFING CEMENT PAINT "Snowcem-Plus" of M/s.Snowcem India Ltd. or equivalent of required shade to given an even shade on:   |        |     |        |          |
| a  | 13.79.1: NEW WORK (Two or more coats applied @ 3.84 kg/10 sqm)  | 18.02  | SQM | 23.10  | 416.26   |
| 70 | 16.1: Making PLINTH PROTECTION 50 mm thick of CEMENT CONCRETE 1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size) over 75 mm bed of dry brick ballast 40 mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth. | 1.00   | SQM | 102.03 | 102.03   |

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| 71 | 19.10A: Providing and fixing SALEM STAINLESS STEEL AISI 304 (18/8) KITCHEN SINK as per IS:13983 with C.I brackets and stainless steel plug 40mm including painting of fittings and brackets, cutting and making good the walls wherever required, of type: (NOTE: Sink edge to be kept 3-5 mm below platform top)   |      |     |         |          |
| a  | 19.10A.2.2: Kitchen sink WITHOUT drain board size 610 x 460 mm & bowl depth 178 mm  | 8.00 | NOS | 1259.04 | 10072.32 |
| 72 | 19.42: Providing and fixing, 600 x 450 mm, BEVELLED EDGE MIRROR of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with CP brass screws & washers complete. (NOTE: Mirror centre ht.from fl.lvl: 145-150 cm in gen)  | 7.00 | NOS | 385.90  | 2701.30  |
| 73 | 19.43: Providing & fixing 600x 120x 5 mm GLASS SHELF with edges rounded off supported on anodised aluminium angle frame with CP brass brackets and guard rail fixed with 40 mm long screws, rawl plugs etc. complete .  | 4.00 | NOS | 146.65  | 586.60   |
| 74 | 19.72: Providing and fixing RIGID (UNPLASTICISED) P.V.C. (SWR) FLOOR TRAP of approved quality and make conforming to IS:7839 & 5329, of self cleansing design of 150 x 150 mm size and locking with P.V.C. half round stainer with provision of 1 to 3 waste inlets & outlets of range 75 to 40 mm dia. for different appliances, all complete, including the cost of cutting and making good the wall and floors etc. (Note: Min. water seal-50 mm)                                | 7.00 | NOS | 110.59  | 774.13   |
| 75 | 19.1: Providing & fixing WATER CLOSET SQUATTING PAN (INDIAN TYPE W.C PAN) with 100mm SCI or UPVC (as required) P or S trap, 10 litre low level white PVC flushing cistern with manually controlled device (handle lever) conforming to IS 7231, Parryware / Hindware / Seabird / Orient (Coral) with all fittings and fixtures complete including cutting and making good the walls and floors wherever required, of type: (NOTE: Ht bet pan top & cistern underside to be 60-65cm) |      |     |         |          |
| a  | 19.1.2: White Vitreous China Orissa pattern W.C pan of size 580 x 440 mm with integral type foot rests.   | 2.00 | NOS | 1754.62 | 3509.24  |
| 76 | 19.2: Providing and fixing WHITE VITREOUS CHINA WATER CLOSET PEDESTAL TYPE (EUROPEAN TYPE W.C PAN) with seat and lid, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever) conforming to IS-7231, Parryware/ Hindware/ Seabird/ Orient (Coral) with all fittings and fixtures complete including cutting and making good the walls and floors wherever required, with: . (NOTE: Max.ht. bet. pan top & cistern under side -30cm)         |      |     |         |          |
| a  | 19.2.2: W.C pan with ISI marked white solid plastic seat and lid.   | 2.00 | NOS | 1600.17 | 3200.34  |
| 77 | 19.7: Providing & fixing WASH BASIN with C.I./M.S brackets, 15mm C.P brass pillar taps, Kingston/ Gem/ Techno/ Parko, 32mm C.P brass waste of standard pattern including painting of fittings and brackets, cutting and making good the walls, wherever required, of type: (NOTE: Ht. of basin rim from floor level to be 75-80cm)  |      |     |         |          |
| a  | 19.7.2: White Vitreous China wash basin size 630x 450 mm with a SINGLE 15 mm C.P brass pillar taps.   | 6.00 | NOS | 964.51  | 5787.06  |

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| 78 | 19.34A: Providing & fixing PVC WASTE PIPE (Min.length 70 cm.) for SINK OR WASH BASIN including PVC waste fittings complete, of type:   |       |      |        |         |
| a  | 19.34A.1.1: Semi rigid pipe, 32 mm dia.  | 4.00  | NOS  | 27.72  | 110.88  |
| 79 | !19.45: Providing & fixing SOAP DISH with brackets fixed to wooden cleats with C.P. brass screws etc. complete, of type and size: (NOTE:Ht.of dish base from fl.lvl to be 85-90cm in gen)  |       |      |        |         |
| a  | !19.45: C.P. brass soap dish with brackets .   | 5.00  | NOS  | 60.16  | 300.80  |
| 80 | 19.104: Providing and fixing P.T.M.T. TOWEL RAIL complete with brackets fixed to wooden cleats with C.P. brass screws with concealed fitting arrangement of approved quality, colour and make (Prayag or Equivalent)   |       |      |        |         |
| a  | 19.104.2: 600 mm long Towel Rail with total length of 645mm, 78mm wide and effective height of 88mm, weighing not less than 190 gms.   | 5.00  | NOS  | 244.55 | 1222.75 |
| 81 | 20.107: Providing and fixing P.T.M.T. SHOWER ARM, 15mm nominal size, 1/2"BSP threads 195mm long with bend of 45 degree (effective length of 210mm). Provided with flange of 56mm dia, of approved quality, colour & make, weighing not less than 40 gms. (Prayag or Equivalent)  | 5.00  | NOS  | 55.75  | 278.75  |
| 82 | 20.7: Providing and fixing BRASS BIB COCK of approved quality; of nominal bore of: (NOTE: Outlet to be around 150 mm from wall face) .   |       |      |        |         |
| a  | 20.7.1: 15 mm dia. (Min wt 400 grms)   | 6.00  | NOS  | 100.15 | 600.90  |
| 83 | 20.8: Providing & fixing BRASS STOP COCK of approved quality; of nominal bore of:  |       |      |        |         |
| a  | 20.8.1: 15 mm dia. (Min wt 400 grms)   | 12.00 | NOS  | 100.15 | 1201.80 |
| 84 | 20.14: Providing and fixing CP BRASS SHOWER ROSE with 15 or 20 mm inlet, of size: (NOTE: Shower center to be around 50 cm from wall face)  |       |      |        |         |
| a  | 20.14.1: 100 mm diameter   | 5.00  | NOS  | 22.57  | 112.85  |
| 85 | 21.1: Providing, laying & jointing GLAZED STONEWARE PIPES of GRADE "A" with stiff mixture of cement mortar in the proportion of 1:1 (1 cement: 1 fine sand) including testing of joints etc. complete, of: .   |       |      |        |         |
| a  | 21.1.2: 150 mm dia. (with Gradient 1:100 in general)   | 2.00  | RMT  | 103.38 | 206.76  |
| 86 | Providing and fixing 100 mm dia sand cast iron grating for gully, floor or Nahani trap.  | 8.00  | Each | 9.65   | 77.20   |
| 87 | 21.4: Providing and fixing SQUARE MOUTH S.W GULLY TRAP GRADE "A" COMPLETE WITH CI GRATING brick masonry chamber with bricks of specified class designation in cement mortar 1:4 (1 cement: 4 coarse sand) embedded in CC 1:5:10 plastering 12mm thk with cement mortar 1:3 (1 cement: 3 coarse sand) finished with floating coat of neat cement etc and water tight CI cover with frame of 300 x 300mm size (inside), the weight of cover to be not less than 4.5 kg. and frame to be not less than 2.70 kg as per standard design; with FPS bricks and of size and type : |       |      |        |         |
| a  | 21.4.3.2: 150 x 100 mm size, P type with FPS bricks of class designation 75  | 5.00  | NOS  | 445.53 | 2227.65 |

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| 88 | 21.33: Constructing BRICK MASONRY CHAMBER FOR UNDERGROUND CI INSPECTION CHAMBER AND BENDS with 75 class designation bricks in cement mortar 1:5 (1 cement: 5 fine sand) CI cover with frame (light duty) 455 x 610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) RCC top slab with 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate of 20 mm nominal size) foundation concrete 1:5:10 ( 1 cement:5 fine sand:10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement: 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc.complete as per standard design, of: |       |      |         |          |
| a  | 21.33.2.2: Inside dimension 500 x 700 mm & 45 cm. deep for pipe line with one or two inlets: with FPS bricks.  | 8.00  | NOS  | 1421.76 | 11374.08 |
| 89 | 25.3: Providing & laying WATER PROOFING TREATMENT to VERTICAL AND HORIZONTAL SURFACES of depressed portions of W.C, kitchen and the like consisting of: . (I) 1st course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound 'Impermo' of Snowcem or equivalent conforming to IS:2645 in recommended proportions. (II) 2nd course of 20mm cement plaster 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportion. (III) 3rd course of applying blown or/residual bitumen applied hot at 1.7 kg. per sqm of area. (IV) 4th course of 400 micron thick PVC sheet, (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).                             | 16.56 | SQM  | 133.70  | 2214.07  |
| 90 | !20.2: Providing and fixing RIGID (UNPLASTICISED) P.V.C. PIPES (for working pressure 10 kg/sqcm & conforming to IS:13592) complete with clamps (@ 80 cm c/c max) and fittings including cutting & making good the walls etc; pipe of OUTER DIAMETER of: (FOR INTERNAL WORK) (NOTE: Fittings shall be of same make as that of P.V.C. pipes, injection moulded, or made in cast iron) .  |       |      |         |          |
| a  | !20.2: 20 mm dia. (wall thk 2.8-3.3mm)   | 30.00 | RMT  | 39.59   | 1187.70  |
| b  | !20.2: 25 mm dia. (wall thk 2.9-3.4mm)   | 30.00 | RMT  | 42.81   | 1284.30  |
| c  | !20.2: 32 mm dia. (wall thk 3.4-3.9mm)   | 10.00 | RMT  | 55.19   | 551.90   |
| d  | !20.2: 40 mm dia. (wall thk 3.6-4.2mm)   | 5.00  | RMT  | 66.17   | 330.85   |
| 91 | 20.2 Providing and fixing G.I. pipes complete with G.I. fittings and clamps, including cutting and making good the walls etc., (Internal works)  |       |      |         |          |
| a  | 20.2.1.3 25 mm dia nominal bore  | 2.00  | RMT  | 103.85  | 207.70   |
| b  | 20.2.1.4 32 mm dia nominal bore  | 1.00  | RMT  | 123.80  | 123.80   |
| 92 | 20.104 Providing and fixing PTMT Ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./H.P.H.D. plastic ball (Prayag or equivalent)  |       |      |         |          |
| a  | 20.104.3 25 mm nominal size, 155 mm long, 96 mm high and 52mm wide with piston travel of minimum 8mm, having weight not less than 455 grams (170+85+200) (Body+Rod+Ball). Provided with leverage of minimum 390mm and one piece moulded H.D. plastic ball of 152 mm dia.   | 1.00  | Each | 383.95  | 383.95   |

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| 93 | 20.119 Providing and fixing unplasticised P.V.C connection pipe with PTMT Nuts of approved quality, colour and make (Prayag or equivalent)  |        |      |        |            |
| a  | 20.119.2 15 mm nominal bore with 45 cm length.  | 8.00   | Each | 34.05  | 272.40     |
| 94 | Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end)   |        |      |        |            |
| a  | 25 mm nominal bore.   | 1.00   | Each | 168.75 | 168.75     |
| 95 | Carriage of materials including loading, leading unloading & stacking of surplus earth, debris etc.   |        |      |        |            |
| a  | upto 2 K.M. lead  | 50.00  | CUM  | 39.40  | 1970.00    |
| 96 | 17.23 Supplying at site 1.80 m long R.C.C. standard posts with wooden plugs or 6mm bar nibs.  | 80.00  | Each | 170.10 | 13608.00   |
|    | 1.2m high fencing with 1.80 m R.C.C. design placed every 3m apart embedded in caement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post one side only, provided with nine horizontal lines and two diagonals of barbed wire 9.38 kg per 100 metres (min) between the two posts fitted and fixed with G.I. staples on wooden plugs or G.I.binding wire tied to 6mm bar nibs fixed while casting the post (cost of R.C.C. posts, struts, earth work and concrete to be paid for separately). |        |      |        |            |
| a  | 17.26.1 With G.I. barbed wire   | 160.00 | RMT  | 38.50  | 6160.00    |
|    | GRAND TOTAL B290 :  |        |      |        | 1195757.14 |
|    | Add Escalation @ 24.10% over DSR 2002   |        |      |        | 288177.47  |
|    | Total cost for one Unit   |        |      |        | 1483934.62 |
|    | Total cost for two Unit   |        |      |        | 2967869.23 |

| Part II: Construction of Servant Qrs for Type E 2 Units |   |          |      |         |          |
|---|---|----------|------|---------|----------|
| NO  | CODE/DESCRIPTIONS   | QUANTITY | UNIT | RATE    | AMOUNT   |
| 01  | 2.8.1: Earth work in EXCAVATION IN FOUNDATION TRENCHES OR DRAINS ( not exceeding 1.5 m in width or 10 sqm on - plan) including dressing of sides & ramming of bottoms, lift upto 1.5m,including getting out the excavated soil and disposal of surplus excavated soil as directed,with in a lead of 50 m IN ALL KINDS OF SOIL.  | 50.00    | CUM  | 93.56   | 4678.00  |
| 02  | 2.26: FILLING AVAILABLE EXCAVATED EARTH (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth; consolidating each deposited layer by ramming and watering, lead upto 50 M and lift upto 1.5 M.   | 31.50    | CUM  | 30.25   | 952.88   |
| 03  | 2.28: Supplying and FILLING IN PLINTH WITH RIVER SAND under floors including watering, ramming, consolidating and dressing complete.  | 6.50     | CUM  | 213.28  | 1386.32  |
| 04  | 2.35: SUPPLYING CHEMICAL EMULSION in sealed containers including delivery as specified: (NOTE: Chemical to be procured from reputed authorised dealer as approved by the Engineer-in-charge)  |          |      |         |          |
| A   | 2.35.1: Chlorpyriphos emulsifiable concentrate of 20%   | 5.00     | LTR  | 133.63  | 668.15   |
| 05  | 4.24: Providing and laying DAMP PROOF COURSE 40mm thick with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 12.5 mm nominal size)   | 23.50    | SQM  | 51.74   | 1215.89  |
| 06  | 4.5: Providing and laying in position CEMENT CONCRETE of specified grade excluding the cost of centring and shuttering for ALL WORKS UPTO PLINTH LEVEL, with:   |          |      |         |          |
| A   | 4.5.9: CC 1:4:8 (1 cement: 4 fine sand: 8 graded stone aggregate 40 mm nominal size)  | 18.00    | CUM  | 888.08  | 15985.44 |
| 07  | 5.42.1: Providing & laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering, finishing and reinforcements including Admixtures in recommended proportions (as per IS 9103) to accelerate, retard setting of concrete improve workability without imparing strength and durability as per direction of Engineer-in-charge for M-20 grade reinforced cement concrete, etc. all work upto floor V level. | 10.50    | CUM  | 1428.62 | 15000.51 |
| 08  | 5.14: CENTRING and SHUTTERING including strutting, propping etc and removal of form in all floors; for: .   |          |      |         |          |
| A   | 5.14.1: Foundations, footings, bases of columns etc. for mass concrete.   | 0.25     | SQM  | 61.10   | 15.28    |
| B   | 5.14.3: Suspended floors, roofs, landings, balconies, loft and access platform etc. (Upto 3.5m floor height). (NOTE:- Floor height to be taken from finished floor level to finished slab bottom).  | 80.00    | SQM  | 111.08  | 8886.40  |
| C   | 5.14.5: Lintels, beams, plinth beams, girders, bresssummers and cantilevers. (Upto 3.5m floor height). (NOTE:- Floor height to be taken from finished floor level to finished beam bottom).   | 20.00    | SQM  | 87.96   | 1759.20  |

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| 09 | 5.23 Providing, hoisting & fixing PRECAST REINFORCED CEMENT CONCRETE IN SHELVES including setting in cement mortar 1:3 (1 cement: 3 coarse sand), cost of required centring, shuttering and finishing smooth with neat cement punning on exposed surfaces but excluding the cost of reinforcement, with 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 12.5 mm nominal size), at levels: (NOTE: Floor one level corresponds to plinth level) .   |        |     |         |          |
| A  | 5.23: Upto floor five level  | 0.05   | CUM | 3013.82 | 150.69   |
| 10 | 5.24 Providing, hoisting & fixing PRECAST REINFORCED CEMENT CONCRETE IN VERTICAL AND HORIZONTAL FINS INDIVIDUALLY OR FORMING BOX LOUVERS including setting in cement mortar 1:2 (1 cement: 2 coarse sand), cost of required centring, shuttering and finishing smooth with 6 mm thick cement plaster 1:3 (1 cement: 3 fine sand) on exposed surfaces complete, but excluding the cost of reinforcement with 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size), at levels: (NOTE: Floor one level corresponds to plinth level) .                                     |        |     |         |          |
| A  | 5.24: Upto floor five level  | 0.05   | CUM | 2813.33 | 140.67   |
| 11 | 5.25 Providing PRECAST CEMENT CONCRETE JALLI in 1:2:4 (1 cement: 2 coarse sand: 4 stone aggregate 6 mm nominal size) reinforced with 1.6mm dia mild steel wire including centring and shuttering, roughening, cleaning fixing & finishing in cement mortar 1:3(1 cement:3 fine sand) etc. complete excluding plastering of the jambs, sills and soffits ; of:  |        |     |         |          |
| A  | 5.25.2: 40 mm thick.   | 1.00   | SQM | 213.64  | 213.64   |
| 12 | 5.29: REINFORCEMENT FOR RCC WORK including straightening, cutting, bending, placing in position and binding all complete at all levels, with: .  |        |     |         |          |
| A  | 5.29.3: Cold twisted bars / HYSD bars etc. .   | 750.00 | KGS | 5.60    | 4200.00  |
| 13 | 5.42.2: Providing & laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete structural elements, excluding the cost of centring, shuttering, finishing and reinforcements - including Admixtures in recommended proportions (as per IS 9103) to accelerate, retard setting of concrete improve workability without impairing strength and durability as per direction of Engineer-in-charge for M-20 grade reinforced cement concrete, etc. all work from plinth level upto floor five level, in : |        |     |         |          |
| A  | 5.42.2.1: Walls, columns, pillars, posts and struts  | 1.00   | CUM | 1427.51 | 1427.51  |
| 14 | 6.1: Brick work with FPS BRICKS OF CLASS DESIGNATION 75 IN FOUNDATION AND PLINTH, in:  |        |     |         |          |
| A  | 6.1.10: Cement mortar 1:6 (1 cement: 6 fine sand)  | 35.00  | CUM | 1178.38 | 41243.30 |
| 15 | 6.3: Extra for brick work in superstructure above plinth level upto floor five level   | 30.00  | CUM | 206.38  | 6191.40  |
| 16 | 6.19: Extra for half brick masonry in superstructure above plinth level upto floor V level.  | 17.00  | SQM | 22.00   | 374.00   |
| 17 | 6.18 : Half Brick masonry with FPS BRICKS OF CLASS DESIGNATION 75 IN FOUNDATION AND PLINTH, in:  |        |     |         |          |
| A  | 6.18.4: Cement mortar 1:4 (1 cement: 4 fine sand)  | 17.00  | SQM | 147.55  | 2508.35  |

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| 18 | 7.1: RANDOM RUBBLE MASONRY with hard stone in FOUNDATION and PLINTH including levelling up with cement concrete 1:6:12 (1 cement: 6 coarse sand: 12 graded stone aggregate 20 mm nominal size) at plinth level, (with bond/through stones atleast 1 No. per 0.5 sqm of wall area), in :   |       |     |          |          |
| A  | 7.1.2: Cement mortar 1:6 (1 cement: 6 fine sand) .  | 90.63 | CUM | 987.62   | 89503.06 |
| 19 | 9.1: Providing WOOD WORK IN FRAMES OF DOORS, WINDOWS, CLERESTORY WINDOWS and other frames, wrought framed and fixed in position, with:  |       |     |          |          |
| A  | 9.1.8: Sal wood   | 0.50  | CUM | 24612.35 | 12306.18 |
| 20 | 9.4A.2 : 12 mm thick prelaminate (with particle board decorative lamination on both sides) grade-1, medium density flat pressed, three layer particle board FPT -1 (like Novapan, Ecoboard etc.) or graded wood particle board FPT -1- (like Bhutan Board) IS:3087 marked bonded with BWP type synthetic resin adhesive as per IS: 848 and prelamination conforming to IS:12823 Grade 1, Type - II. 35 mm thick shutters. |       |     |          |          |
| A  | 9.4: Providing and fixing PANELLED OR PANELLED AND GLAZED SHUTTERS FOR DOORS, WINDOWS AND CLERESTORY WINDOWS including ISI marked black enamelled M.S butt hinges (@ 4 Nos 100 x 58 x 1.9 mm per shutter) with necessary screws excluding panelling which will be paid for separately, of thickness & wood:   | 2.10  | SQM | 1682.45  | 3533.15  |
| 21 | 9.85: Providing and fixing FLY PROOF GALVANISED M.S WIRE GAUGE TO WINDOWS AND CLERESTORY WINDOWS using galvanised M.S wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.63 mm and with:   |       |     |          |          |
| A  | 9.85.1: Second class teak wood beading, 62 x 19 mm.   | 1.00  | SQM | 349.54   | 349.54   |
| 22 | Providing and fixing LOUVERS in aluminium or wooden door, windows, ventilators & partition frames with and including necessary aluminium U-channels, C.P. brass / stainless steel screws etc. complete, with:   |       |     |          |          |
| A  | 4mm thick, 100mm wide frosted (ground) glass louvers (inclined at 45 degree & spaced at 60mm c/c max)   | 1.00  | SQM | 323.16   | 323.16   |
| 23 | 12.33A: Providing and laying PRESSED CLAY TILES (as per approved pattern 20 mm nominal thickness and approved size) ON ROOFS jointed with cement mortar 1:4 (1 cement: 4 coarse sand) mixed with 2% integral water proofing compound laid over a bed of 20 mm thick cement mortar 1:4 (1 cement:4 coarse sand) and finished neat complete.  | 85.00 | SQM | 225.58   | 19174.30 |
| 24 | 12.34: LIME CONCRETE TERRACING ON ROOFS average thickness 10 cm. laid to fall with 25mm nominal size brick aggregate and 50% lime mortar 1:2 (1 lime putty: 2 surkhi) rammed and finished with gur and belgiri treatment complete including rounding of junctions with parapet wall complete.   | 85.00 | SQM | 174.20   | 14807.00 |
| 25 | 12.78: Providing and fixing on wall face RIGID UNPLASTICISED PVC RAIN WATER PIPES (working pressure 4 kg / sqcm) conforming to IS:13592 including jointing with 'T'shaped seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion. Single socketed pipes, of OUTER DIA.:   |       |     |          |          |

|    |  |        |     |        |         |
|----|--|--------|-----|--------|---------|
| A  | 12.78.2: 110 mm (+0.4mm) (wall thk 2.5-3.0 mm) .   | 23.00  | RMT | 126.63 | 2912.49 |
| 26 | 12.79: Providing and fixing on wall face RIGID UNPLASTICISED P.V.C. MOULDED FITTINGS / ACCESSORIES ( working preasure 4 kg / sqcm. and wall thickness same as of main pipe) for unplasticised PVC RAIN WATER PIPES conforming to IS:13592 including jointing with seal ring conforming to IS:5382 leaving 10 mm gap for termal exp- ansion, of type and dia: (NOTE:i)concealed pipe joints to be jointed with rubber ring and solvent cement (ii) exposed pipe joints to be jointed with rubber ring and rubber lubricant) . |        |     |        |         |
| A  | 12.79.5.2: Bend 87.5 degree : 110 mm   | 2.00   | NOS | 109.58 | 219.16  |
| B  | 12.79.6.2: Shoe (plain) : 110 mm   | 2.00   | NOS | 215.13 | 430.26  |
| 27 | 13.70.1: Providing WHITE WASHING with LIME to given an even shade on new work (three or more coats) .  | 235.00 | SQM | 4.65   | 1092.75 |
| 28 | 13.93.1: Providing and Painting with SYNTHETIC ENAMEL PAINT of approved brand and manufacture to give an even shade two or more coats on new work.   | 21.00  | SQM | 24.26  | 509.46  |
| 29 | 13.8: Providing 12mm thick CEMENT PLASTER (including providing necessary plaster grooves wherever required), of mix:   |        |     |        |         |
| A  | 13.8.2: 1:4 (1 cement: 4 fine sand)  | 3.00   | SQM | 35.27  | 105.81  |
| B  | 13.8.4: 1:6 (1 cement: 6 fine sand)  | 133.50 | SQM | 34.74  | 4637.79 |
| 30 | 13.9: Providing 15mm thick CEMENT PLASTER (including providing necessary plaster grooves wherever required and for all exterior height) on rough side of single or half brick wall, of mix:  |        |     |        |         |
| A  | 13.9.4: 1:6 (1 cement: 6 fine sand)  | 132.50 | SQM | 39.95  | 5293.38 |
| 31 | 13.64: POINTING on STONE WORK with cement mortar 1:3 (1 cement: 3 fine sand), type:  |        |     |        |         |
| A  | 13.64.3: Raised and cut pointing   | 1.00   | SQM | 72.20  | 72.20   |
| 32 | 13.73: Providing COLOUR WASHING such as green, blue or buff to given an even shade, on:  |        |     |        |         |
| A  | 13.73.1: New work (two or more coats) with a base coat of white washing with lime.   | 107.50 | SQM | 6.30   | 677.25  |
| 33 | 15.3: DEMOLISHING RCC WORK including stacking of steel bars and disposal of unserviceable materials within 50 m lead.  | 0.24   | CUM | 353.18 | 84.76   |
| 34 | 15.7.4: DEMOLISHING BRICK WORK including stacking of serviceable material and disposal of unserviceable materials within 50 m lead, in cement mortar .   | 1.00   | CUM | 204.27 | 204.27  |
| 35 | 15.2: DEMOLISHING CEMENT CONCRETE including disposal of material within 50 meters lead:  |        |     |        |         |
| A  | 15.2.2: 1:4:8 or leaner mix.   | 2.00   | CUM | 149.14 | 298.28  |
| 36 | 15.23: DISMANTLING TILE WORK in floor & roofs laid in cement mortar including stacking material within 50 meters lead:   |        |     |        |         |
| A  | 15.23.1: For thickness of tiles 10mm to 25mm .   | 5.00   | SQM | 7.60   | 38.00   |
| 37 | 19.42: Providing and fixing, 600 x 450 mm, BEVELLED EDGE MIRROR of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with CP brass screws & washers complete. (NOTE: Mirror centre ht.from fl.lvl: 145-150 cm in gen)   | 24.00  | NOS | 385.90 | 9261.60 |
| 38 | 19.43: Providing & fixing 600x 120x 5 mm GLASS SHELF with edges rounded off supported on anodised aluminium angle frame with CP brass brackets and guard rail fixed with 40 mm long screws, rawl plugs etc. complete .   | 24.00  | NOS | 146.65 | 3519.60 |

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| 39 | 19.1: Providing & fixing WATER CLOSET SQUATTING PAN (INDIAN TYPE W.C PAN) with 100mm SCI or UPVC (as required) P or S trap, 10 litre low level white PVC flushing cistern with manually controlled device (handle lever) conforming to IS 7231, Parryware / Hindware / Seabird / Orietn (Coral) with all fittings and fixtures complete including cutting and making good the walls and floors wherever required, of type: (NOTE: Ht bet pan top & cistrn underside to be 60-65cm)   |       |     |         |         |
| A  | 19.1.2: White Vitreous China Orissa pattern W.C pan of size 580 x 440 mm with integral type foot rests.  | 2.00  | NOS | 1754.62 | 3509.24 |
| 40 | 20.106: Providing & fixing P.T.M.T. SWIVELLING SHOWER 15mm nominal size, 95mm long, 65mm dia of approved quality, colour & make weighing not less than 40 gms. with approximate 80 holes of 1.2mm dia. (Prayag make or Equivalent)   | 2.00  | NOS | 82.57   | 165.14  |
| 41 | 20.107: Providing and fixing P.T.M.T. SHOWER ARM, 15mm nominal size, 1/2"BSP threads 195mm long with bend of 45 degree (effective length of 210mm). Provided with flange of 56mm dia, of approved quality, colour & make, weighing not less than 40 gms. (Prayag or Equivalent)  | 2.00  | NOS | 55.73   | 111.46  |
| 42 | 20.7: Providing and fixing BRASS BIB COCK of approved quality; of nominal bore of: (NOTE: Outlet to be around 150 mm from wall face) .   |       |     |         |         |
| A  | 20.7.1: 15 mm dia. (Min wt 400 grms)   | 4.00  | NOS | 100.15  | 400.60  |
| 43 | 20.8: Providing & fixing BRASS STOP COCK of approved quality; of nominal bore of:  |       |     |         |         |
| A  | 20.8.2: 20 mm dia. (Min wt 750 grms)   | 2.00  | NOS | 121.17  | 242.34  |
| 44 | !20.2: Providing and fixing RIGID (UNPLASTICISED) P.V.C. PIPES (for working pressure 10 kg/sqcm & conforming to IS:13592) complete with clamps (@ 80 cm c/c max) and fittings including cutting & making good the walls etc; pipe of OUTER DIAMETER of: (FOR INTERNAL WORK) (NOTE: Fittings shall be of same make as that of P.V.C. pipes, injection moulded, or made in cast iron) .  |       |     |         |         |
| A  | !20.2: 20 mm dia. (wall thk 2.8-3.3mm)   | 10.00 | RMT | 39.59   | 395.90  |
| 45 | 21.4: Providing and fixing SQUARE MOUTH S.W GULLY TRAP GRADE "A" COMPLETE WITH CI GRATING brick masonry chamber with bricks of specified class designation in cement mortar 1:4 (1 cement: 4 coarse sand) embedded in CC 1:5:10 plastering 12mm thk with cement mortar 1:3 (1 cement: 3 coarse sand) finished with floating coat of neat cement etc and water tight CI cover with frame of 300 x 300mm size (inside), the weight of cover to be not less than 4.5 kg. and frame to be not less than 2.70 kg as per standard design; with FPS bricks and of size and type : |       |     |         |         |
| A  | 21.4.3.2: 150 x 100 mm size, P type with FPS bricks of class designation 75  | 4.00  | NOS | 445.53  | 1782.12 |

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| 46 | 21.33: Constructing BRICK MASONRY CHAMBER FOR UNDERGROUND CI INSPECTION CHAMBER AND BENDS with 75 class designation bricks in cement mortar 1:5 (1 cement: 5 fine sand) CI cover with frame (light duty) 455 x 610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) RCC top slab with 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate of 20 mm nominal size) foundation concrete 1:5:10 ( 1 cement:5 fine sand:10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement: 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc.complete as per standard design, of: |       |      |         |         |
| A  | 21.33.2.2: Inside dimension 500 x 700 mm & 45 cm. deep for pipe line with one or two inlets: with FPS bricks.  | 2.00  | NOS  | 1421.81 | 2843.62 |
| 47 | 9.218 Providing and fixing aluminium sliding door bolts ISI marked anodised (anodica coating not less than grade AC 10 as per 1868) transparent or dyed to required colour or shade with nuts and screws etc complete:   |       |      |         |         |
| a  | 9.218.2 250x16mm   | 4.00  | Each | 86.25   | 345.00  |
| 48 | 9.219 Providing and fixing aluminium tower bolts ISI marked anodised (anodica coating not less than grade AC 10 as per 1868) transparent or dyed to required colour or shade with nuts and screws etc complete:  |       |      |         |         |
| a  | 9.219.2 250x10mm   | 4.00  | Each | 40.45   | 161.80  |
| b  | 9.219.3 200 x 10mm   | 4.00  | Each | 35.10   | 140.40  |
| c  | 9.219.5 100 x 10mm   | 8.00  | Each | 22.25   | 178.00  |
| 49 | 9.222 Providing and fixing aluminium handles ISI marked anodised (anodica coating not less than grade AC 10 as per 1868) transparent or dyed to required colour or shade with nuts and screws etc complete:  |       |      |         |         |
| a  | 9.222.2 100mm  | 8.00  | Each | 23.00   | 184.00  |
| b  | 9.222.3 75mm   | 8.00  | Each | 19.35   | 154.80  |
| 50 | 11.4 Cement concrete flooring 1:2:4 ( 1 cement: 2 coarse sand: 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete.  |       |      |         |         |
| a  | 11.4.3 40mm thick with 20mm nominal size stone aggregate   | 25.00 | SQM  | 70.08   | 1752.00 |
| 51 | Carriage of materials including loading, leading unloading & stacking of surplus earth, debris etc.  |       |      |         |         |
| a  | upto 2 K.M. lead   | 20.00 | CUM  | 39.40   | 788.00  |
| 52 | Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.50m in width as well as 10 sq.m in plan including disposal of excavated earth upto 50m and lift upto 1.50m, disposed soil to be levelled and neatly dressed: All kinds of soils  | 72.00 | SQM  | 13.65   | 982.80  |
| 53 | Excavation work in foundation trenches or drains not exceeding 1.50m in width or 10 Sqm in plan including dressing of sides and ramming of bottoms lift upto 1.50m, including getting out the excavated soil and disposal of surplus excavated soils as directed within a lead of 50m  |       |      |         |         |
| a  | 2.9.1 Ordinary rock  | 2.00  | CUM  | 153.90  | 307.80  |

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|--|---|------------|------|----------------------|------------|
| 54   | 9.7A Extra for providing frosted glass panes 10 Kg/Sqm (4mm thick) instead of ordinary glass panes 10 Kg/Sqm (4 mm thick) in doors windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).     | 1.00       | SQM  | 1.10                 | 1.10       |
| 55   | 9.87 Providing 40x5 mm flat iron hold fast 40cm long including fixing to frame with 10mm diameter bolts, nuts and wooden plugs and embeddings in cement concrete block 30x10x15 cm 1:3:6 mix (1 cement: 3 coarse sand: 6 graded stone aggregate 20mm nominal size). | 32.00      | Each | 36.75                | 1176.00    |
| 56   | Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. all complete.   |            |      |                      |            |
|  | 9.82.2 Fixed to openings/wooden frames with rawl plugs screws etc.  | 37.50      | KGS  | 37.90                | 1421.25    |
| 57   | 21.1 Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture in the proportion of 1:1 (1 cement: 1 fine sand) including testing of joints etc., complete.  |            |      |                      |            |
| a  | 21.1.2 150 mm diameter  | 30.00      | RMT  | 103.34               | 3100.20    |
|  | GRAND TOTAL (A) :   |            |      | Rs.                  | 296494.63  |
|  | Add Escalation @ 24.10%   |            |      | Rs.                  | 71455.21   |
|  |   |            |      | Rs.                  | 367949.83  |
|  |   |            |      | Rs.                  |            |
|  | Total for Part I & II (2967869.70+367949.83)  | 2967869.23 |      | Rs.                  | 3335819.06 |
| <b>Contractor's Tender percentage ABOVE / AT PAR / BELOW @ .....</b> |   |            |      | Rs.                  |            |
|  |   |            |      | Total Contract Value | Rs.        |
| <b>Percentage in words:.....</b>                                     |   |            |      |                      |            |