



**GOVERNMENT OF INDIA**  
**CENTRAL PUBLIC WORKS DEPARTMENT**

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**ORIGINAL NIT**

**No. 13/NIT/CE/AGT/2026-2027.**

**FOR**

**Construction of 01 No. of Type IV Qtr and  
02 Nos of Type II Qtr and Horizontal Extension  
of Office Building for SIB at Churachandpur,  
Manipur.**

Issued by

**CHIEF ENGINEER**  
**CENTRAL PUBLIC WORKS DEPARTMENT**  
**G. P. R. A COMPLEX, GANDHIGRAM,**  
**AGARTALA-799012**  
**(PHONE NO.: 0381-2397011, FAX: 0381-2397001)**

**GOVERNMENT OF INDIA**  
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**NOTICE INVITING TENDER**

**ORIGINAL NIT NO. - 13/NIT/CE/AGT/2026-2027.**

|                                                |   |                                                                                                                                                       |
|------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of work                                   | : | <i>Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur.</i> |
| Estimated Cost                                 | : | <b>₹ 3,86,19,341.00</b><br>(Civil : ₹ 3,31,71,373.00 + Electrical : ₹ 54,47,968.00).                                                                  |
| Earnest Money                                  | : | <b>₹ 7,72,387.00</b>                                                                                                                                  |
| Performance Guarantee                          | : | 5% of Tendered value or Estimated Cost Put to Tender (ECPT) whichever is higher and as mentioned in Schedule E.                                       |
| Security Deposit                               | : | 2.5% of tendered Value.                                                                                                                               |
| Completion Period                              | : | <b>15 (Fifteen) Months.</b>                                                                                                                           |
| NIT No.                                        | : | <b>13/NIT/CE/AGT/2026-2027.</b>                                                                                                                       |
| Last Date & Time of receipt of Pre-Bid Queries | : | 05/10/2026 upto 3:00 P.M.                                                                                                                             |
| Last Date for submission of Bid document       | : | <b>09/10/2026 upto 3:00 P.M.</b>                                                                                                                      |

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**Name of work :** *Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur.*

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PRESS NOTICE INVITING e-TENDERS**CENTRAL PUBLIC WORKS DEPARTMENT**

**The Executive Engineer, Manipur, CPWD, GPRA Colony, Sangaiprou, Imphal-795140, Phone No.: 0385-2455095, e-mail: [ddo.mclicpwd-mn@gov.in](mailto:ddo.mclicpwd-mn@gov.in), invites for & on behalf of the President of India online percentage rate bids from CPWD enlisted contractors of appropriate Class in Building & Roads category for the following work through e-tender solution:-**

|                                         |   |                                                                                                                                                               |
|-----------------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NIT No.                                 | : | <b>13/NIT/CE/AGT/2026-2027.</b>                                                                                                                               |
| Name of work                            | : | <b><i>Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur .</i></b> |
| Estimated Cost                          | : | <b>₹ 3,86,19,341.00</b><br>(Civil : ₹ 3,31,71,373.00 + Electrical : ₹ 54,47,968.00).                                                                          |
| Time of Completion                      | : | <b>15 (Fifteen) Months.</b>                                                                                                                                   |
| Earnest Money                           | : | <b>₹ 7,72,387.00</b>                                                                                                                                          |
| Last time and date of submission of bid | : | 3:00 P.M. on 09/10/2026                                                                                                                                       |

The bid forms and other details can be obtained from the website

<https://etender.cpwd.gov.in> the press notice is also available on <https://etender.cpwd.gov.in>

**INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e-TENDERING FORMING PART OF NIT**

**The Executive Engineer, Manipur, CPWD, GPRA Colony, Sangaiprou, Imphal-795140, Phone No.: 0385-2455095, email: [ddo.medicpwd-mn@gov.in](mailto:ddo.medicpwd-mn@gov.in),** invites on behalf of the President of India online percentage rate bids from CPWD enlisted contractors of appropriate class in Building & Roads category for the following work through e-tender solution:-

| Sl. No. | NIT No.                         | Name of work & Location                                                                                                                                | Estimated cost put to bid                                                            | Earnest Money        | Period of completion        | Last date & time for submission of bids, original EMD or a copy of receipt for deposition of original EMD in any other CPWD division | Date & Time of opening of bid |
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| 1.      | <b>13/NIT/CE/AGT/2026-2027.</b> | <b>Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur .</b> | <b>₹ 3,86,19,341.00</b><br>(Civil : ₹ 3,31,71,373.00 + Electrical : ₹ 54,47,968.00). | <b>₹ 7,72,387.00</b> | <b>15 (Fifteen) Months.</b> | 09/10/2026<br>upto 3:00<br>P.M.                                                                                                      | 09/10/2026 at<br>3:30 P.M.    |

## **INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e-TENDERING**

1. Information and instructions for Contractors will form part of NIT and to be uploaded on ITI website.
2. Earnest Money can be paid in the form of (i) Banker's Cheque of a Commercial Bank, (ii) Account Payee Demand Draft of a Commercial Bank (iii) Fixed Deposit Receipt (FDR) of a Commercial Bank (iv) Insurance Surety Bonds (v) Bank Guarantee (for balance amount as prescribed) from a Commercial Bank drawn in favour of ***The Executive Engineer, Manipur, CPWD, GPRA Colony, Sangaiprou, Imphal-795140, Phone No.: 0385-2455095, e-mail: [ddo.mcdicpwd-mn@gov.in](mailto:ddo.mcdicpwd-mn@gov.in)***, along with bank guarantee of any scheduled bank wherever applicable.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, 50% of earnest money or ₹ 20 lakhs, whichever is less, will have to be deposited in shape prescribed above and balance in shape of Bank Guarantee of any scheduled bank. The intending bidder has to fill all the details such as (i) Banker's Cheque of a Commercial Bank, (ii) Account Payee Demand Draft of a Commercial Bank (iii) Fixed Deposit Receipt (FDR) of a Commercial Bank (iv) Insurance Surety Bonds (v) Bank Guarantee (for balance amount as prescribed) from a Commercial Bank, amount and date.

**The amount of EMD can be paid by** (i) Banker's Cheque of a Commercial Bank, (ii) Account Payee Demand Draft of a Commercial Bank (iii) Fixed Deposit Receipt (FDR) of a Commercial Bank (iv) Insurance Surety Bonds (v) Bank Guarantee (for balance amount as prescribed) from a Commercial Bank.

3. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
4. On opening date, the contractor can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.
5. **Contractor can upload documents in the form of JPG format and PDF format.**
6. It is mandatory to fill details / upload scanned copies of all the documents such as **GST** registration as stipulated in the bid document. If such document is not uploaded his bid will become invalid and cost of bid document & processing fee shall not be refunded.
7. If the contractor is found ineligible after opening of bids, his bid shall become invalid and Cost of bid document and processing fee shall not be refunded.
8. If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the contractor the bid shall become invalid and cost of bid document and processing fee shall not be refunded.
9. The Bid submitted shall become invalid if:-
  - i) The bidder is found ineligible.
  - ii) The bidder does not Deposit original EMD with Division Office of any Executive Engineer, CPWD (The EMD document is issued from the place in which the office of receiving Division Office is situated).
  - iii) The bidder does not upload all the documents (including GST registration) as stipulated in the bid document.
  - iv) Certificate of Registration for GST and acknowledgement of upto date filed return as per NIT stipulation.
  - v) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest tenderer in the office of tender opening authority.
10. If a bidder quotes nil rates against each item in item rate tender or does not quote any percentage above/ below on the total amount of the tender or any section/ sub head in percentage rate bid, the bid shall be treated as invalid and will not be considered as lowest bidder.
11. The Eligibility criteria documents shall be opened first on due date and time. The time and date of opening of technical cum commercial and financial bid of the bidders qualifying the eligibility criteria shall be communicated to them at the later stage.
12. It is mandatory to upload scanned copies of all documents including GST registration if these documents are not uploaded, then bid will become invalid and summarily be rejected.
13. After submission of the bid the agency can re-submit revised bid any number of times but before last time and date of submission of bid as notified.

1. The intending bidder must read the terms and conditions of **CPWD-6** carefully. The intending bidder should submit his/their bid only if she/he/they consider himself/themselves eligible and she/he/they is/are in possession of all the documents required.
2. Information and instructions, for bidders posted on website shall form part of bid documents.
3. Bid documents consisting of plans, specifications, schedule of quantities of various types of items of works to be executed and set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website <https://etender.cpwd.gov.in> free of cost.
4. Bid can be submitted only after
  - (i) Uploading the mandatory scanned documents such as (i) Banker's Cheque of a Commercial Bank, (ii) Account Payee Demand Draft of a Commercial Bank (iii) Fixed Deposit Receipt (FDR) of a Commercial Bank (iv) Insurance Surety Bonds (v) Bank Guarantee (for balance amount as prescribed) from a Commercial Bank drawn in favour of **The Executive Engineer, Manipur, CPWD, GPRA Colony, Sangaiprou, Imphal-795140, (Phone No.: 0385-2455095, e-mail: [ddo.mcdicpwd-mn@gov.in](mailto:ddo.mcdicpwd-mn@gov.in), or receipt of deposition of EMD and;**
  - (ii) Other documents as specified in the NIT.
5. **The intending bidder must have valid Class-III digital signature to submit the bid.**
6. On opening date, the contractor can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.
7. Contractor can upload documents in the form of **JPG** format and **PDF** format.
8. In case of e-tendering, integrity Pact shall be treated in the same manner as other components of the bid document. In e-tendering, the intending bidder does not sign any documents physically and entire bid document is submitted through digital signature. Since Integrity pact is a part of bid document no separate physical submission is required with other documents to be submitted in the office of tender opening authority. In addition to other component of bid document, the integrity pact shall also be signed between Executive Engineer & successful bidder after acceptance of bid.
9. The department reserves the right to reject any prospective Applications/ bids without assigning any reason thereof and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids/applications satisfying the laid down criteria are received.
10. **The existing enlisted contractor either himself or his authorized representative shall take compulsory ERP (Enterprise Resource Planning) training through any of the CPWD Regional Training Institutes (RTIs) at Delhi, Mumbai, Chennai and Kolkata, National CPWD Academy (NCA) Ghaziabad, Training arranged by Graduates of ERP "Train the Trainers Programme" conducted by NCA, Ghaziabad or through any other special training arranged by ERP unit of CPWD before 30.06.2024. Training will be valid only when participants are registered in LMS (Learning Management System) of ERP and certificate is issued through LMS of ERP.**

**From 01.07.2024, the enlisted contractor will not be allowed to participate in tendering process without uploading the certificate of above training.**

**In case of non-enlisted contractor being first lowest in any of the tender then either contractor himself or his authorized representative shall take compulsory ERP training through any of the CPWD Regional Training Institutes (RTIs) at Delhi, Mumbai, Chennai and Kolkata, National CPWD Academy (NCA) Ghaziabad, Training arranged by Graduates of ERP "Train the Trainers Programme" conducted by NCA, Ghaziabad or through any other special training arranged by ERP unit of CPWD within two months from the date of issue of Intent letter. Training will be valid only when non enlisted contractor is registered in LMS of ERP and certificate is issued through LMS of ERP. Failure to do so, a recovery of ₹ 10,000/- (Ten Thousand) per week shall be made from the R/A bill without giving any show cause notice in this regard.**

## 11. List of documents to be scanned and uploaded within the period of bid submission.

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | (i) Banker's Cheque of a Commercial Bank, (ii) Account Payee Demand Draft of a Commercial Bank (iii) Fixed Deposit Receipt (FDR) of a Commercial Bank (iv) Insurance Surety Bonds (v) Bank Guarantee (for balance amount as prescribed) from a Commercial Bank for EMD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 2. | Enlistment order of the contractor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3. | Copy of receipt for deposition of original EMD issued from division office of any Executive Engineer, CPWD, (The receipt of EMD document shall be issued from the place in which the office of receiving division is situated). <b>As per Proforma (Page No. 9).</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 4. | <p><b>GST Registration certificate if already obtained by the bidder.</b></p> <p>If the bidder has not obtained GST registration as applicable, then he shall scan and upload following under taking along with bid documents.</p> <p><b>“If work is awarded to me, I/we shall obtain GST registration certification certificate, as applicable, within one month from the date of receipt of award letter or before release of any payment by CPWD, whichever is earlier, failing which I/we shall be responsible for any delay in payments which will be due towards me/us on account of the work executed and/or for any action taken by CPWD or GST department in this regard.”</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 5. | Copy of bidder Pan Card.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6. | Name, Contact Number & e-mail of person to be contacted for clarification required if any.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 7. | ERP (Enterprise Resource Planning) training certificate as per <b>Sl. No. 10</b> (above).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 8. | <p><b>UNDERTAKING ON STRUCTURAL STABILITY AND SOUNDNESS OF ALREADY COMPLETED BUILDINGS AND INFRASTRUCTURE PROJECTS.</b></p> <p>I/we undertake and confirm that any building/Infrastructure constructed by our firm/partnership firm/company has not suffered any failure, making it unfit for intended use, either due to structural design and defects or due to use of sub-standard materials or execution of sub-standard work, poor workmanship or any other reason during the last 25 (twenty five) years.</p> <p>I/we, further, undertake that if such information comes to the notice of CPWD, then Engineer-in-Charge shall be free to terminate the bid/agreement and to forfeit the entire amount of earnest money deposit, performance guarantee and security deposits.</p> <p>I/we, also undertake that in addition to above, the Engineer-in-Charge shall be free to debar us forever from tendering in CPWD.</p> <p>The decision of Engineer-in-Charge or any higher authority shall be final and binding.</p> <p>Signature of notary with seal</p> <p>Signature of bidder or an authorized person of the firm with stamp</p> <p><b>Note:</b> Affidavit to be furnished on a '<i>Non-Judicial stamp paper of Rs. 200/-</i>' (scanned copy of the notarized affidavit to be uploaded at the time of submission of bid).</p> |

**Executive Engineer, Manipur,  
CPWD, GPRA Colony, Sangaiprou,  
Imphal-795140**

**PROFORMA FOR THE RECEIPT TO BE ISSUED BY THE EE RECEIVING THE EMD**

|                                                                                                                                                                                      |                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <p align="center"><b>Receipt of deposition of original EMD (Receipt No. .... / date.....)</b></p>                                                                                    |                                              |
| <p><b>Name of work: - <i>Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur .</i></b></p> |                                              |
| <p><b>NIT No. 13/NIT/CE/AGT/2026-2027.</b></p>                                                                                                                                       |                                              |
| <p><b>Estimated Cost : ₹ 3,86,19,341.00</b><br/>(Civil : ₹ 3,31,71,373.00 + Electrical : ₹ 54,47,968.00).</p>                                                                        |                                              |
| <p><b>Amount of Earnest Money Deposit : ₹ 7,72,387.00</b></p>                                                                                                                        |                                              |
| <p><b>Last date of submission of bid : 09/10/2026</b></p>                                                                                                                            |                                              |
| 1.                                                                                                                                                                                   | <b>Name of contractor .....*</b>             |
| 2.                                                                                                                                                                                   | <b>Form of EMD.....*</b>                     |
| 3.                                                                                                                                                                                   | <b>Amount of Earnest Money Deposit.....*</b> |
| 4.                                                                                                                                                                                   | <b>Date of Submission of EMD.....*</b>       |
| <p><b>Signature, Name and Designation of EMD receiving officer (EE/AE(P)/AO/AAO) along with office stamp</b></p>                                                                     |                                              |
| <p align="right">(*To be filled by EMD receiving EE)</p>                                                                                                                             |                                              |

# PART – “A”

## CPWD-6 FOR e-Tendering

**The Executive Engineer, Manipur, CPWD, GPRA Colony, Sangaiprou, Imphal-795140, Phone No.: 0385-2455095, e-mail: [ddo.mcdicpwd-mn@gov.in](mailto:ddo.mcdicpwd-mn@gov.in),** invites on behalf of the President of India online percentage bids from CPWD enlisted contractors of appropriate class in Building & Roads category for the work ***“Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur .”***

1. Percentage rate bids are invited on behalf of President of India from approved and eligible contractors of CPWD enlisted contractors of appropriate class in composite category

The enlistment of the contractors should be valid on the last date of submission of tenders. In case the last date of submission of tender is extended, the enlistment of contractor should be valid on the original date of submission of tenders.

- 1.1 The work is estimated to cost **₹ 3,86,19,341.00** (Civil : ₹ 3,31,71,373.00 + Electrical : ₹ 54,47,968.00).

This estimate however, is given merely as a rough guide

- 1.1.1 The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division which will deal with all matters relating to the invitation of bids.

For composite bid, besides indicating the combined estimated cost put to bid, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.

- 1.2 ~~Intending bidders is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-~~

~~Criteria of eligibility for submission of bid documents.~~

- 1.2.1 ~~Conditions for Non CPWD registered contractors only, if bids are also open to non CPWD contractors:~~

~~For works estimated cost upto tendering limit of class – I **Building & Roads category (composite) Contractor** ( However, for Horticulture and Furniture etc discipline, it may be modified as per bidding limit of CPWD class I contractors of respective discipline as the case may be)~~

~~Three similar works each of value not less than Rs. .... or two similar work each of value not less than Rs. .... or one similar work of value not less than Rs. ....  
(All figures rounded to nearest convenient figure in last 7 years ending previous day of last date of submission of bids.~~

**Note:-** ~~For works costing above tendering limit of class – II **Building & Roads category (composite) Contractor** but upto tendering limit of Clause I **Building & Roads category (composite) Contractor** However, for Horticulture and Furniture etc discipline, it may be modified as per bidding limit of CPWD class II and CPWD Class I contractors respectively of respective discipline as the case may be) when bids are open to non CPWD contractors also, then class II contractors of CPWD registered shall also be eligible if they satisfy the eligibility criteria specified in 1.2.1 above.~~

### 1.2.2 Criteria of eligibility for CPWD as well as non-CPWD contractors,

~~For works estimated to cost above tendering limit of class 1 **Building & Roads category (composite)** Contractor (However for Horticulture and Furniture etc discipline, it may be modified as per bidding limit of CPWD class I contractors of respective discipline as the case may be.) Three similar works each of value not less than Rs.....or two similar work each of value not less than Rs..... Or one similar work of value not less than Rs..... (All figures rounded to nearest convenient figure ) in last 7 years ending previous day of last date of submission of bids.~~

~~The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of bid. This is applicable for 1.2.1 as well as 1.2.2 (This is not applicable for CPWD-enlisted contractors of appropriate class in composite category)~~

**To become eligible for issue of bid, the bidders shall have to furnish an affidavit as under:-**

I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee. (Scanned copy to be uploaded at the time of submission of bid)

### 1.2.3 ~~When bids are invited from non-CPWD contractors and CPWD class II contractors as per provisions of **clause 1.2.1** above, it will be mandatory for non-CPWD contractors and CPWD class II contractors to upload the work experience certificate(s) and the affidavit as per the provisions of **clause 1.2.2**.~~

~~But for such bids, Class I contractors of CPWD are eligible to submit the bids without submission of work experience certificate and affidavit. Therefore, CPWD class I contractors shall upload two separate letters for experience certificate and affidavit that these documents are not required to be submitted by them. Uploading of these two letters is mandatory otherwise system will not clear mandatory fields.~~

2. Agreement shall be drawn with the successful bidder on prescribed Form No. **CPWD 7 (or GCC 2023 for Construction Works (amended up to date))** which is available as a Govt. of India Publication and also available on website **www.cpwd.gov.in**. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **15 (Fifteen) Months** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. The site for the work is available.
  - (i) The architectural and structural drawings are available. However minor revisions may be carried out during execution.
  - Or
  - (ii) The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work.

5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website <https://etender.cpwd.gov.in> or [www.cpwd.gov.in](http://www.cpwd.gov.in) free of cost.
6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
8. When bids are invited in three stage system and if is desired to submit revised financial bid then is shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.
9. **Earnest Money of ₹ 7,72,387.00** in the form of (i) Banker's Cheque of a Commercial Bank, (ii) Account Payee Demand Draft of a Commercial Bank (iii) Fixed Deposit Receipt (FDR) of a Commercial Bank (iv) Insurance Surety Bonds (v) Bank Guarantee (for balance amount as prescribed) from a Commercial Bank (drawn in favour of **The Executive Engineer, Manipur Central Division-I, CPWD, Tuliha Airport, Imphal-795140, Phone No.: 0385-2455095, e-mail: [ddo.mcdicpwd-mn@gov.in](mailto:ddo.mcdicpwd-mn@gov.in)**, shall be scanned and uploaded to the e-Tendering website within the period of bid submission. The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, minimum 50% of earnest money or Rs. 20 lacs, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee of any scheduled bank having validity for six months or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

Copy of Enlistment Order and certificate of work experience and other documents as specified in the press notice shall be scanned and uploaded to the e-Tendering website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in press notice shall have to be submitted by the lowest bidder only along with physical EMD if any of the scanned copy of EMD uploaded within a week physically in the office of tender opening authority. Online bid documents submitted by intending bidders shall be opened only of those bidders, whose original EMD deposited with any division of CPWD and other documents scanned and uploaded are found in order.

- 9A. the contractors registered prior to 01.04.2015 on e-tendering portal of CPWD shall have to deposit tender processing fee at existing rates, or they have option to switch over to the new registration system without tender processing fee any time.

The bid submitted shall be opened at **3:30 P.M. on 09/10/2026.**

10. The bid submitted shall become invalid and e-Tender processing fee shall not be refunded if:
  - (i) The bidder is found ineligible.
  - (ii) The bidder does not upload scanned copies of all the documents (including GST registration) stipulated in the bid document

- (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.
- (iv) If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
- (v) The bidder does not Upload Proforma for Earnest Money Deposit Declaration.

11. **The contractor whose bid is accepted will be required to furnish Performance Guarantee as per OM- DG/CON/Construction/2023/20 dated 27-02-2026.**

- (a) 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher).
- (b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.

**Performance Guarantee specified in Schedule F.** This guarantee shall be in the form of cash (in case guarantee amount is less than ₹ 10,000.00) or Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/ Pay order of any Scheduled Bank of any scheduled bank (in case guarantee amount is less than ₹ 1,00,000.00) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. If applicable and also ensure the compliance of aforesaid provisions by the sub-contractors, if any engaged by the contractor for the said work and programme chart (Time and Progress) within the period specified in Schedule F.

12. **The description of the work is as follows:** The situation of work for **SIB at Churachandpur State:- Manipur**. The work is consisting of **"Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur "**. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidders implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

13. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.
14. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.
15. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.
16. The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Gazetted officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
17. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for 7 period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
18. The **bids** for the **work** shall remain open for acceptance for a period of **Thirty (30) days** from the date of opening of bids in case of single bid system and **75 (Seventy five) days** from the date of opening of technical **bids** in case bids are invited in 2 or 3 bid system. Further
  - (i) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department within **7 days after last date of submission of bids**, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the earnest money absolutely **irrespective of letter of acceptance for the work is issued or not.**
  - (ii) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department **after** expiry of 7 days **after last date of submission of bids**, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit **100%** of the earnest money absolutely **irrespective of letter of acceptance for the work is issued or not.**
  - (iii) **In case of forfeiture of earnest money as prescribed in para (i) and (ii) above**, the bidders shall not be allowed to participate in the rebidding process of the same work.
19. This notice inviting Bid shall form a part of the contract document. The successful bidders/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of: -

- (a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
- (b) Standard C.P.W.D. Form 7 **or GCC 2023 for Construction Works (amended up to date).**

## 20. For Composite Bids

20.1.1 The Executive Engineer in charge of the major component will call tenders for the composite work. **The Earnest Money will be fixed with respect to the combined estimated cost put to tender for the composite bid.**

20.1.2 The bid document will include following three components:

**Part A:-** CPWD-6, CPWD-7 including schedule A to F for the major component of the work, Standard **General Conditions of Contract for CPWD 2023** for **Construction** Works as amended/ modified up to date.

**Part B:-** General / specific conditions, specifications and schedule of quantities applicable to major component of the work.

**Part C:-** Schedule A to F for minor component of the work. Competent authority under clause 2 and clause 5 shall be same authority as mentioned in schedule A to F for major components), General/specific conditions, specifications and schedule of quantities applicable to minor component(s) of the work.

20.1.3 Composite contractor shall have to associate other agency(s) for execution of each of the work(s) **Internal electrical installation, Rising Main including works of DG Sets, Sub-Station, Fire Fighting System & PA System forming** part of the tender, which fulfils the eligibility criteria for these works(s) duly taking prior approval from the department. However, the **Building & Roads category (composite)** contractor shall also be eligible to carry out himself any or all of these works without associating any specialized agency provided: (a) He fulfills the prescribed eligibility criteria respectively for these work(s) or (b) He directly procures the equipment of approved make from manufacturer and get it installed from authorized agency/service provider of the manufacturer or specialized agency as per criteria mentioned in NIT.

20.1.4 The eligible bidder shall quote rates for all items of major component as well as for all items of minor components of work.

20.1.5 After acceptance of the bid by competent authority, the EE in charge of major component of the work shall issue letter of award on behalf of the President of India. After the work is awarded, the main contractor will have to enter into one agreement with EE in charge of major component and has also to sign two or more copies of agreement depending upon number of EE's/DDH in charge of minor components. One such signed set of agreement shall be handed over to EE/DDH in charge of minor component. EE of major component will operate part A and part B of the agreement. EE/DDH in charge of minor component(s) shall operate Part C along with Part A of the agreement.

20.1.6 Entire work under the scope of composite bid including major and all minor components and all minor components shall be executed under one agreement.

20.1.7 Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works.

20.1.8 The main contractor has to associate agencies for specialized components (s) conforming to eligibility criteria as defined in the bid document and has to submit detail of such

Agency(s) to Engineer-in-charge of relevant component(s).within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer-in-charge of relevant component(s).

20.1.9 In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-charge of relevant specialized component(s).

The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in-charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.

20.1.10 The main contractor has to enter into MoU with agencies contractor(s) associated by him. Copy of such MoU shall be submitted to EE/ DDH in charge of each relevant component as well as to EE in-charge of major component. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.

20.1.11 Running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer-in-charge of the discipline of minor component directly to the main contractor.

20.1.12A.The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Engineer-in-charge of major component after record of completion certificate of all other components.

20.1.12B. Final bill of whole work shall be finalized and paid by the EE of major component. Engineer(s) in charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.

21. GST and all other tax as applicable, shall be payable by the contractor and Government will not entertain any claim whatsoever in respect of the same.

22. Specialized agencies/firms as per para 20.1.3 who have satisfactorily executed individually each category works as per following criteria during last seven years are eligible for the specialized works:

- (i) One work of 80% of cost of work.
- (ii) Two work of 60% of cost of work.
- (iii) Three work of 40% of cost of work.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of bid.

23. Intending tenderer shall quote rate percentage above / below at **Page No. 158 i.e.** Percentage composite tender.

**Executive Engineer, Manipur, CPWD,  
GPRA Colony, Sangaiprou, Imphal-795140,  
For & on behalf of President of India**

**INTEGRITY AGREEMENT**

This Integrity Agreement is made at ..... on this..... Day of ..... 2026

**BETWEEN**

President of India represented through **The Executive Engineer, Manipur, CPWD, GPRA Colony, Sangaiprou, Imphal-795140, Phone No.: 0385-2455095, email: [ddo.medicpwd-mn@gov.in](mailto:ddo.medicpwd-mn@gov.in)**  
Hereinafter referred as the '**Principal/Owner**', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

**AND**

.....  
(Name and Address of the Individual/firm/Company)

through.....(Hereinafter referred to as the "**Bidder/**  
(Details of duly authorized signatory)

**Contractor**" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

**Preamble**

WHEREAS the Principal / Owner have floated the Tender (NIT No..... (\*).....) (hereinafter referred to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for .....

(Name of work)

Hereinafter referred to as the "**Contract**".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "**Integrity Pact**" or "**Pact**"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

**Article 1: Commitment of the Principal/Owner**

- 1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
  - (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
  - (c) The Principal/Owner shall Endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- 2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

**Article 2: Commitment of the Bidder(s)/Contractor(s)**

- 1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2) The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
  - a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
  - b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
  - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly, Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
- e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose (with each tender as per proforma enclosed) any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- 3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
- 5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

### **Article 3: Consequences of Breach**

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

- 1) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.
- 2) **Forfeiture of Performance Guarantee/Security Deposit:** If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of **Earnest Money Deposit**, Performance Guarantee and Security Deposit of the Bidder/Contractor.

- 3) **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of Indian Penal code (IPC)/Prevention of Corruption Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

#### **Article 4: Previous Transgression**

- 1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- 2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
- 3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

#### **Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors**

- 1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/ sub-vendors.
- 2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- 3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

#### **Article 6 - Duration of the Pact**

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, CPWD.

#### **Article 7- Other Provisions**

- 1) This Pact is subject to Indian Law, place of performance and jurisdiction is the **Headquarters of the Division** of the Principal/Owner, who has floated the Tender.
- 2) Changes and supplements need to be made in writing. Side agreements have not been made.
- 3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.

- 4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this **Integrity Agreement/Pact or interpretation thereof shall not be subject to arbitration.**

#### **Article 8- LEGAL AND PRIOR RIGHTS**

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

.....  
(For and on behalf of Principal/Owner)

.....  
(For and on behalf of Bidder/Contractor)

#### **WITNESSES:**

1.....  
(Signature, name and address)

2.....  
(Signature, name and address)

Place:

Dated:

To,

.....,  
.....,  
.....

**Subject : *Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur .***

**Dear Sir,**

It is here by declared that CPWD is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the CPWD.

Yours faithfully

**Executive Engineer, Manipur,  
CPWD, GPRA Colony, Sangaiprou,  
Imphal-795140,**

To,

**The Executive Engineer, Manipur,  
CPWD, GPRA Colony, Sangaiprou,  
Imphal-795140,  
Phone No.: 0385-2455095,  
Email: [ddo.medicpwd-mn@gov.in](mailto:ddo.medicpwd-mn@gov.in)**

**Subject : Submission of Tender for the work of “*Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur .*”**

Dear Sir,

I/We acknowledge that CPWD is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by CPWD. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, CPWD shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

**GOVERNMENT OF INDIA  
CENTRAL PUBLIC WORKS DEPARTMENT**

STATE : **Manipur.**  
BRANCH : **B & R**

ZONE : **Chief Engineer, Agartala.**  
DIVISION : **EE (Manipur), CPWD.**

**Percentage Rate Tender & Contract for Works**

**Tender for the work of :“Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur.”**

- (i) To be submitted **online** by **15.00** (time) hours on 09/10/2026 (date) to **The Executive Engineer, Manipur, CPWD, GPRA Colony, Sangaiprou, Imphal-795140, and Phone No.: 0385-2455095, email: [ddo.mcdicpwd-mn@gov.in](mailto:ddo.mcdicpwd-mn@gov.in)**
- (ii) To be opened in presence of bidders who may be present either at the place of opening of tenders (electronically) or can visualize to process online at 3:30 P.M. on 09/10/2026 in the office of **The Executive Engineer, Manipur, CPWD, GPRA Colony, Sangaiprou, Imphal-795140, Phone No.: 0385-2455095, email: [ddo.mcdicpwd-mn@gov.in](mailto:ddo.mcdicpwd-mn@gov.in)**

**TENDER**

I/We have read and examined the notice inviting tender, schedule, A, B, C, D ,E & F. Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule ‘F’, viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

I/We agree to keep the tender open for **Thirty (30) days from the date of opening of bid** and not to make any modifications in its terms & conditions.

A copy of earnest money in Receipt (i) Banker’s Cheque of a Commercial Bank, (ii) Account Payee Demand Draft of a Commercial Bank (iii) Fixed Deposit Receipt (FDR) of a Commercial Bank (iv) Insurance Surety Bonds (v) Bank Guarantee (for balance amount as prescribed) from a Commercial Bank is scanned and uploaded. If I/We fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said President of India or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, If I/ We fail to commence work as specified, I/We agree that President of India or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said the performance guarantee absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

Further, I/We agree that in case of forfeiture of Earnest Money & Performance Guarantee as aforesaid. I/We shall be debarred for participation in the re-tendering process of the work.

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated .....\*\*

Signature of the Contractor

Postal Address -----\*\*

Telephone No.-----\*\*

Witness:-----

\*\*

FAX -----\*\*

Address:-----\*\*

E-MAIL -----\*

Occupation:-----\*\*

**\*\* To be filled by Contractor**

**ACCEPTANCE**

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the President of India for a sum of ₹ \* \_ \_ \_ \_ \_ (Rupees \* \_ \_ \_ \_ \_ )

The letters referred to below shall form part of this contract Agreement :

- (a) -----\*
- (b) -----\*
- (c) -----\*

For & on behalf of the President of India

Signature.....\*

Dated .....\*

Designation.....\*

**(\*) To be filled by EE**

**\*General Conditions of Contract for Central Public Works Department Works–2023 for Construction Works and copy of amendments applicable for GCC- 2023 for Construction Works up to date of submission of bid.**

Following amendments as issued by the DG, CPWD will also form the part of the agreement, which are available on the website (<http://cpwd.govt.in>) of the CPWD and can be seen / downloaded by all.

| Sl. No. | O.M. No.                                                                 | Subject                                                                                                |
|---------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 1.      | DG/CON/Construction 2023/09 dated 01/04/2024.                            | Modification in conditions of contract, General Condition of Contract, 2023 (Construction Work).       |
| 2.      | DG/Enlist. Rules-2023/10 dated 22/04/2024.                               | Modification for enlistment under rule 12.0 in ER-2023.                                                |
| 3.      | DG/CON/Construction 2023/10 dated 03/06/2024.                            | Modification in conditions of contract, General Condition of Contract, 2023(Construction Work).        |
| 4.      | DG/CON/Construction 2023/11 dated 03/06/2024.                            | Modification in conditions of contract, General Condition of Contract, 2023(Construction Work).        |
| 5.      | DG/CON/Misc./41 dated 16/07/2024.                                        | Modification in conditions of contract, General Condition of Contract, 2023(Construction Work).        |
| 6.      | DG/CON/Construction 2023/12 dated 29/10/2024.                            | Modification in conditions of contract, General Condition of Contract, 2023(Construction Work).        |
| 7.      | DG/CON/Construction 2023/13 dated 29/10/2024.                            | Modification in conditions of contract, Clause 10A of GCC Construction Work 2023.                      |
| 8.      | DG/CON/Construction 2023/14 dated 03/01/2025.                            | Modification in General Rules and Directions of GCC 2023 for Construction Work.                        |
| 9.      | DG/CON/Construction 2023/15 dated 31/01/2025.                            | Modification in Clause 7A of GCC 2023 for Construction Work.                                           |
| 10.     | DG/CON/Construction 2023/16 dated 10/02/2025.                            | Modification in Clause 7,8,9 and Schedule F of clause 8 of GCC 2023 for Construction Work.             |
| 11.     | DG/CON/Construction 2023/17 dated 03/03/2025.                            | Modification in Clause 14 of GCC 2023 for Construction Work 2023.                                      |
| 12.     | DG/GCC 2023/Misc./45 dated 13/05/2025.                                   | Suggestion for Modification in Clause 19K of GCC 2023.                                                 |
| 13.     | DG/CON/Construction/2023/18 dated 16/06/2025                             | Modification in Clause 25.2(b) and 25.6 of GCC 2023 for Construction Works.                            |
| 14.     | DG/CON/Construction/2023/19 dated 06/11/2025                             | Modification in Clause 19L of GCC 2023 for Construction Works.                                         |
| 15.     | DG/CON/Construction/2023/20 dated 27/02/2026                             | Modification in General Rules & Direction, Clause 1 and Schedule E of GCC 2023 for Construction Works. |
| 16.     | <b>Any other circular/OM issued up to date of submission of the bid.</b> |                                                                                                        |

\* Copies of all above circulars are to be attached with agreement.

## **PERFORMANCE GUARANTEE**

- (i) The contractor shall submit an irrevocable **Performance Guarantee of 5%** of tendered value or estimated Cost Put to Tender (ECPT) (whichever is higher). Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount, within period specified in Schedule 'F' from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in schedule 'F' on written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge. This guarantee shall be in the form of Cash (in case guarantee amount is less than ₹10,000/-) or Deposit at Call receipt of any scheduled bank/Banker's Cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay Order of any scheduled bank (in case guarantee amount is less than ₹ 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Government to make good the deficit.
- (ii) The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest.
- (iii) The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
- (a) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.
- (b) Failure by the contractor to pay President of India any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
- (iv) In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the President of India.
- (v) **On substantial Completion of any work which has been completed to such an extent that the intended purpose of the work is met and ready to use, then a provisional Completion certificate shall be recorded by the Engineer-in-Charge. The provisional certificate shall have appended with a list of outstanding balance item of work that need to be completed in accordance with the provisions of the contract.**

**This provisional completion certificate shall be recorded by the concerned Engineer-in-Charge with the approval of Project Manager/Chief Project Manager/ Superintending Engineer. After recording of the provisional Completion Certificate for the work by the competent authority, the 80% of performance guarantee shall be returned to the contractor, without any interest.**

**However, in case of contracts involving Maintenance of building and services/ any other work after construction of same building and services/other work, then 40% of performance guarantee shall be returned to the contractor, without any interest after recording the provisional Completion certificate.**

|                                              |
|----------------------------------------------|
| On non judicial stamp paper of minimum ₹ 100 |
|----------------------------------------------|

(Guarantee offered by Bank to CPWD in connection with the execution of contracts)

### Form of Bank Guarantee for Performance / Guarantee / Security Deposit / Mobilization advance

1. Whereas the Executive Engineer ..... (name of division)....., CPWD on behalf of the President of India (hereinafter called "The Government") has invited bids under ..... (NIT number) ..... dated ..... for "*Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur*". The Government has further agreed to accept irrevocable Bank Guarantee for Rs. .... (Rupees .....only) valid upto .....(date)\* ..... as **Earnest Money Deposit** from ..... (name and address of contractor) ..... (hereinafter called " the contractor") for compliance of his obligations in accordance with the terms and conditions of the said NIT.

#### OR\*\*

Whereas the Executive Engineer ..... (name of division)....., CPWD on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number ..... with ..... (name and address of the contractor)..... (hereinafter "the contractor") for execution of work ..... (name of work) ..... The Government has further agreed to accept an irrevocable Bank Guarantee for Rs. .... (Rupees .....only) valid upto .....(date)\* ..... as **Performance Guarantee / Security Deposit / Mobilization advance** from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

2. We, ..... (indicate the name of the bank) ..... (herein after referred to as "the Bank"), hereby undertake to pay to the Government an amount not exceeding Rs. .... (Rupees ..... only) on demand by the Government within 10 days of the demand.
3. We, ..... (indicate the name of the bank) ....., do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. .... (Rupees ..... only).
4. We, ..... (indicate the name of the bank) ....., further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the contractor shall have no claim against us for making such payment.

5. We, ..... (indicate the name of the bank) ....., further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. We, ..... (indicate the name of the bank) ....., further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.
7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
8. We, ..... (indicate the name of the bank) ....., undertaken not to revoke this guarantee except with the consent of the Government in writing.
9. This Bank Guarantee shall be valid up to ..... unless extended on demand by the Government. Notwithstanding anything mentioned above, or liability against this guarantee is restricted to Rs. .... (Rupees ..... only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under his guarantee shall stand discharged.

Date .....

Witness:

1. Signature .....  
Name and address

Authorized signatory

Name :

Designation :

Staff code no.

Bank seal :

2. Signature .....  
Name and address

**\*Date to be worked out on the basis of validity period of 90 days where only financial bids are invited and 180 days for two/three bid system from the date of submission of tender.**

**\*\*In paragraph 1, strike out the portion not applicable. Bank Guarantee will be made either for earnest money or for performance guarantee/security deposit/mobilization advance, as the case may be.**

# **PART – “B”**

## **Civil Work**

**SCHEDULES A to F FOR CIVIL WORK****SCHEDULE 'A'**

**Schedule of quantities : Page No. 87 to 103**

**SCHEDULE 'D'**

Extra schedule for specific requirements/document for - **NIL.**  
the work, if any.

**SCHEDULE 'E'**

Reference to General Conditions of contract – **GCC 2023 For Construction Works (as modified & corrected up to date).**

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of Work:               | <b><i>Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur.</i></b>                                                                                                                                                                                                                                                                                                               |
| Estimated cost of the work: | <b>₹ 3,86,19,341.00</b><br>(Civil : ₹ 3,31,71,373.00 + Electrical : ₹ 54,47,968.00).                                                                                                                                                                                                                                                                                                                                                                                       |
| Earnest money               | <b>₹ 7,72,387.00 for Composite work.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Performance Guarantee       | As per OM- DG/CON/Construction/2023/20 dated 27-02-2026.<br>(a) 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher).<br><br>(b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount. |
| Security Deposit            | 2.5% of the tendered value                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**SCHEDULE 'F'****GENERAL RULES & DIRECTIONS:**

|                                                                                                                                              |                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Officer inviting tender                                                                                                                      | <b>Executive Engineer, Manipur,<br/>CPWD, GPRA Colony, Sangaiprou,<br/>Imphal-795140,<br/>or<br/>his successor-in-charge of work</b> |
| Maximum percentage of quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2 below. | <b>As mentioned in Page-39</b>                                                                                                       |

**Definitions:**

|        |                                                                                |                                                                                                                                       |
|--------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 2(v)   | <b>Engineer-in-Charge</b>                                                      | <b>Executive Engineer, Manipur,<br/>CPWD, GPRA Colony, Sangaiprou,<br/>Imphal-795140,<br/>or<br/>His successor-in-charge of work.</b> |
| 2(vii) | Accepting Authority                                                            | <b>Chief Engineer, Agartala, CPWD<br/>or<br/>His successor-in-charge of work.</b>                                                     |
| 2(x)   | Percentage on cost of materials and labour to cover all overheads and profits. | <b>15%</b>                                                                                                                            |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                       |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 2(xi)           | <b>Standard Schedule of Rates:</b>                                                                                                                                                                                                                                                                                                                                                                      |                                                                                       |
|                 | Civil Items of Work:                                                                                                                                                                                                                                                                                                                                                                                    | D.S.R. 2021 with up to date correction slips.                                         |
| xii)            | Department:                                                                                                                                                                                                                                                                                                                                                                                             | Central Public Works Department                                                       |
| 9(ii)           | Standard CPWD contract Form:                                                                                                                                                                                                                                                                                                                                                                            | C.P.W.D. FORM 7 GCC 2023 For Construction Works (as modified & corrected up to date). |
| <b>Clause 1</b> | i) Time allowed for submission of Performance Guarantee, Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance<br>ii) Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period as provided in (i) above | 07 Days<br><br>07 Days                                                                |
| <b>Clause 2</b> | Authority for fixing Compensation under Clause 2                                                                                                                                                                                                                                                                                                                                                        | <b>Chief Engineer, Agartala, CPWD</b><br>or<br>his successor-in-charge of work        |
| <b>Clause 5</b> | Number of days from the date of issue of letter of acceptance for reckoning date of start Mile stone(s) as per table given below :-                                                                                                                                                                                                                                                                     | 14 Days                                                                               |

### Mile stones/Bar chart (s)

| Sl. No.                                                                                                                             | Description of mile stone (s) (Physical)                                                                                                                                                                                                                                                                            | Time allowed in days (From date of start) | Amount to be withheld in case of Non-achievement of each physical Mile stone(s) subject a total maximum of 5% ( five Percent) of the total tendered value of work            |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                                                                                                                   | Completion of entire earthwork, RCC foundation, grade beams, columns up to plinth level, plinth filing with earth and consolidation complete.                                                                                                                                                                       | 04 Months.                                | In the event of not achieving the necessary physical mile stone, 1.0% (one percent) of the tendered value of work will be withheld for failure in achieving each mile stone. |
| 2                                                                                                                                   | Completion of RCC framed structure and brick work upto floor one level.                                                                                                                                                                                                                                             | 06 Momths.                                |                                                                                                                                                                              |
| 3                                                                                                                                   | Completion of RCC framed structure and brick work in all floors, RCC shelves, electrical conducting in walls, internal water supply & sanitary lines, internal plastering in all floors of building.                                                                                                                | 10 Months.                                |                                                                                                                                                                              |
| 4                                                                                                                                   | Completion of external plastering, water proof treatment over terrace, fixing of grills, railing, fixing of door shutters, window shutters, including glazing, completion of flooring, skirting and terrace water tank, mumty, parapet etc .                                                                        | 12 Months.                                |                                                                                                                                                                              |
| 5                                                                                                                                   | Completion electrical wiring, switch boards, MDB, plinth protection, mosquito proof net, fixing of water supply, sanitary, electrical fittings such as fan light fittings, earthing, kitchen platform, cup boards, final painting, testing of service lines & fittings, removal malba and handing over of building. | 15 Months.                                |                                                                                                                                                                              |
| Time allowed for execution of work                                                                                                  |                                                                                                                                                                                                                                                                                                                     | 15 Months.                                |                                                                                                                                                                              |
| <b>Note:</b> Successful tenderer may request to the competent authority for rescheduling of above mile stones before award of work. |                                                                                                                                                                                                                                                                                                                     |                                           |                                                                                                                                                                              |

|                                                                                      |                                                                                |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Time allowed for execution of work                                                   | <b>15 (Fifteen) Months.</b>                                                    |
| <b>Clause 5 :</b>                                                                    |                                                                                |
| (i) Authority to convey the decision of shifting of Milestone and extension of time. | <b>Engineer-in-Charge</b><br>(Major component)                                 |
| (ii) Authority to decide Rescheduling of Milestone and extension of time.            | <b>Chief Engineer, Agartala, CPWD</b><br>or<br>his successor-in-charge of work |
| (iii) Shifting of date of start in case of delay in handing over of site.            | <b>Chief Engineer, Agartala, CPWD</b><br>or<br>his successor-in-charge of work |

| <b>PFORMA OF SCHEDULES Clause 5 Schedule of handing over of site</b> |                                              |                    |                                                                                      |
|----------------------------------------------------------------------|----------------------------------------------|--------------------|--------------------------------------------------------------------------------------|
| <b>Part</b>                                                          | <b>Portion of site</b>                       | <b>Description</b> | <b>Time period for handing over reckoned from date of issue of letter of intent.</b> |
| Part A                                                               | Portion without any hindrance                | Full site          | 10 Days                                                                              |
| Part B                                                               | Portion with encumbrances                    | Nil                | Nil                                                                                  |
| Part C                                                               | Portions dependent on work of other agencies | Nil                | Nil                                                                                  |

|                   |                                                                                                                                                                          |                                                                                                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Clause 6</b>   | <b>Electronic Measurement Book (EMB) through CPWD ERP Portal.</b>                                                                                                        |                                                                                                                                                                                                                    |
| <b>Clause 7</b>   | Gross work to be done together with net payment/Adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment | <b>₹ 25.00 Lakhs</b>                                                                                                                                                                                               |
| <b>Clause 7A</b>  | Whether Clause 7A shall be applicable.                                                                                                                                   | Yes                                                                                                                                                                                                                |
| <b>Clause 8A</b>  | Authority to decide compensation on account if contractor fails to submit completion plans                                                                               | <b>Chief Engineer, Agartala, CPWD</b><br>or<br><b>His successor-in-charge of work</b>                                                                                                                              |
| <b>Clause 10A</b> | List of testing equipment to be provided by the contractor at site lab.                                                                                                  | a) <b>Balances:</b><br>i) 7 kg to 10 kg capacity, semi-self-indicating type – Accuracy 10 gm.<br>ii) 500 gm capacity, semi-self-indicating type Accuracy 1 gm.<br>iii) Pan Balance- 5 kg Capacity- Accuracy 10 gm. |
|                   |                                                                                                                                                                          | <b>b) Ovens-</b> Electrically operated, thermostatically controlled up to 110°C- Sensitivity 1°C.                                                                                                                  |

|                         |                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         |                                                                                                                 | <p><b>c) Sieves:</b> as per IS: 460</p> <p>i) IS Sieves – 450 mm internal dia. of sizes 100 mm, 80 mm, 63 mm, 50 mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75 mm, complete with lid and pan.</p> <p>ii) IS Sieves – 200 mm internal dia. (brass frame) consisting of 2.36 mm, 1.18 mm, 600 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns with lid and pan.</p> <p>Sieve shaker capable of 200 mm and 300 mm dia. sieves, manually operated with timing switch assembly.</p> <p>e) Equipment for slump test- slump cone, steel plate, taping rod, steel scale, scoop.</p> |
|                         |                                                                                                                 | <p>d) Equipment for concrete testing</p> <p>i) Concrete cube moulds 15 x 15 x 15cm. - 18Nos.</p> <p>ii) Pruning Rods 2Kg weight length 40cm and ramming face 25mm - 1No.</p> <p>iii) Extra Bottom plates for 15cm cube mould-6Nos.</p> <p>iv) Standard Vibration table for cubes - 1No.</p> <p>v) Dial gauges 25 mm travel- 0.01mm/division Least count - 02 Nos.</p> <p>vi) Compression testing machine of 100 tonne capacity. - 1 No.</p>                                                                                                                                                                             |
|                         | <b>Note: - Any other equipment required for execution of work &amp; as per direction of Engineer-in-Charge.</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Clause 10 B (ii)</b> | Whether clause 10-B (ii) shall be applicable.                                                                   | <b>Not Applicable.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Clause 10 C</b>      | Component of labour expressed as percent of value of works                                                      | <b>Not Applicable.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                                                                    |                    |
|------------------------------------------------------------------------------------|--------------------|
| <b>Clause 10 CC</b>                                                                | <b>Applicable.</b> |
| Component of Cement                                                                | <b>15%</b>         |
| Component of Labour                                                                | <b>25%</b>         |
| Civil component of other Construction Materials.                                   | <b>40%</b>         |
| Electrical and Mechanical (E&M) component of Construction Materials.               | <b>--</b>          |
| Component of POL                                                                   | <b>--</b>          |
| Reinforcement steel bars/TMT bars/Structural steels (including strands and cables) | <b>20%</b>         |
| Component of Bitumen                                                               | <b>--</b>          |
| <b>Total</b>                                                                       | <b>100%</b>        |

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Clause 11</b>       | <p><b>Specification to be followed for execution of work:</b></p> <p>CPWD Specification for works-2019 Vol I &amp; II with up to date correction slips till last date of submission of tender (Hereinafter called CPWD specifications also) and as detailed in nomenclature of items.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| <b>Clause 12</b>       | <p>The completion cost shall, in no case, exceed 1.5 times the contract amount.</p> <p>Contractor will devise a system to keep a watch on quantum of work taken up vis-a-vis balance items required to complete defined scope of work and will give the <b>alerts</b> to Engineer-in-Charge before taking up extra items, deviations so that completion cost does not exceed above limit. Work executed beyond above limit will neither be recorded nor be paid.</p> <p>Engineer-in-Charge will verify and confirm the alerts before assigning deviations and / or extra items to the contractor. If additional work(s) is required to complete defined scope of work beyond above limit then Engineer-in Charge may take up such work(s) separately. The contractor will not have any claims whatsoever on this account.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| <b>Clause 12.2 (a)</b> | <p><b>Deviation, Extra Items and Pricing</b></p> <p>a) Non Schedule Extra Items - The contractor may, within fifteen days of the receipt of order to execute extra item or occurrence of the item(s), submit analysis of rate of extra item(s) based on the rates of materials available in basic rate of Standard Schedule of Rate mentioned in schedule F and market rates of the materials which are not available in standard schedule of rate mentioned in schedule F. For this purpose, the basic rate of materials available in Schedule of Rates mentioned in Schedule F will be enhanced or reduced by the applicable cost index, as the case may be.</p> <p>The rates of the materials which are not available in Standard Schedule of Rates, mentioned in Schedule F, shall be based on, tax paid bills for the material as defined in manufacturer's specification.</p> <p>Material rates from Standard Schedules of Rates shall be given priority in the analysis of rates.</p> <p>The rate of extra item will be:-</p> <p>(i) Analyzed rates as above multiplied by (tender amount divided by estimated cost put to tender), if tendered amount is below the estimated amount put to tender.</p> <p>Analyzed rate, if the tendered amount is above the estimated amount put to tender.</p> |  |
|                        | <p>Failing which the rate(s) approved later by the Engineer-in-Charge shall be final and binding.</p> <p>Where the contractor submits analysis of rate of extra items in the manner prescribed above. The Engineer-in Charge shall, within 60 days of the receipt of the analysis of rate, after giving consideration to the analysis of rates and other documents submitted by the contractor, determine the rate(s) of extra items. The contractor shall be paid in accordance with the rates so determined.</p> <p>However provisional rates on the basis of invoice will be allowed by the Engineer-in-Charge. Invoice shall be accepted only for materials not available in the Standard Schedule of Rates mentioned in Schedule F, The extra items rate shall be finalized only after submission of tax aid bills by the contractor to the Engineer-in Charge as required above. The Engineer-in-Charge may apply the discount available in the market on the rate of materials taken from tax paid bills.</p>                                                                                                                                                                                                                                                                                     |  |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                      |      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------|
| Clause 12.2 (b) | <b>Scheduled Extra Items</b><br>(i) For percentage rate tenders, the extra item(s) shall be paid as per the Standard Schedule of Rates, mentioned in Schedule F, enhanced or reduced by the applicable cost index and further enhanced or reduced by percentage above/ below quoted by the contractor on estimated cost put to tender.<br>(ii) For item rate tenders, the extra item(s) shall be paid as per the said schedule rate enhanced or reduced by the applicable cost index and multiplied by (tender amount divided by estimated cost put to tender). |                                                                                                                                      |      |
|                 | 12.2 (c)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Deviation Limit beyond which clauses12.2 (c) shall apply for building work.                                                          | 100% |
| 12.4 (i)        | Deviation Limit beyond which clauses 12.2 (c) shall apply for foundation work (except items mentioned in earth work subhead in DSR and related items)                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                      | 100% |
| (ii)            | Deviation Limit for items mentioned in earth work Subhead of DSR or related items                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                      | 100% |
| Clause 16       | Competent Authority for Deciding reduced rates:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                      |      |
|                 | For Civil items of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Chief Engineer, Agartala, CPWD<br>or<br>his successor-in-charge of work<br>For deciding reduced rate upto 5% of contract value.      |      |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Chief Engineer, Agartala, CPWD<br>or<br>his successor-in-charge of work<br>For deciding reduced rate more than 5% of contract value. |      |
| Clause 18       | List of mandatory machinery, tools & plants to be deployed by the contractor at site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | As per Page No. 83 of this document                                                                                                  |      |
| Clause 19 C     | Chief Engineer, Agartala, CPWD or his successor-in-charge of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                      |      |
| Clause 19D      | Chief Engineer, Agartala, CPWD or his successor-in-charge of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                      |      |
| Clause 19G      | Chief Engineer, Agartala, CPWD or his successor-in-charge of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                      |      |
| Clause 19K      | Chief Engineer, Agartala, CPWD or his successor in charge of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                      |      |

|                     |                                 |                                  |
|---------------------|---------------------------------|----------------------------------|
| <b>Clause 25 :-</b> |                                 |                                  |
| 1.                  | Conciliator                     | <b>ADG, Guwahati.</b>            |
| 2.                  | Arbitrator Appointing Authority | <b>Chief Engineer, Agartala.</b> |
| 3.                  | Place of Arbitration            | <b>Imphal</b>                    |

**Clause 32: Requirement of Technical Representative(s) & recovery Rate:**

| Sl. No. | Requirement of Technical Staff        |                                     | Minimum Experience (Years) | Designation of Technical staff                                 | Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause - 32. |
|---------|---------------------------------------|-------------------------------------|----------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
|         | Qualification                         | Number (of Major + Minor Component) |                            |                                                                |                                                                                                                   |
| 1.      | Graduate Engineer or Diploma Engineer | 1+1                                 | 2 or 5 respectively        | Project Manager cum Planning /quality/ Site / Billing Engineer | ₹ 15,000/- per month per person                                                                                   |

Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.

Diploma holder with minimum 10 years relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

| Clause 38 |    |                                                                                                                                                 |                                                                       |
|-----------|----|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| i)        | a) | Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of <b>Delhi Schedule of Rates 2021 printed by CPWD</b> | <b>D.S.R. 2021 &amp; D.A.R 2021 with up to date correction slips.</b> |
| ii)       |    | <b>Variations permissible on theoretical quantities</b>                                                                                         |                                                                       |
|           | a) | Cement for works with estimated cost put to tender not more than ₹ 25 lakhs.                                                                    | <b>3% plus/minus</b>                                                  |
|           |    | For works with estimated cost put to Tender is more than ₹ 25 lakhs.                                                                            | <b>2% plus/minus</b>                                                  |
|           | b) | Bitumen all works                                                                                                                               | <b>2.5% plus only &amp; nil on minus side.</b>                        |
|           | c) | Steel reinforcement and structural steel Sections for diameter, section and category.                                                           | <b>2% plus/minus.</b>                                                 |
|           | d) | All other materials                                                                                                                             | <b>Nil</b>                                                            |

## GENERAL CONDITIONS

1. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1932.
2. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgment or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier.
3. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Superintending Engineer/Executive Engineer may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.
4. The work in general shall be carried out in accordance with the **CPWD Specifications for works-2019 Vol. I & II** with upto date correction slips, hereinafter referred as CPWD Specifications.
5. The structural and architectural drawings shall at all times be properly correlated before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and architectural drawings relating to the relevant item, the former shall prevail unless and otherwise given in writing by the Engineer-in-Charge.
6. The tenderer shall study carefully, the drawings, specifications, schedule of quantities and conditions of the tender documents to fully appreciate the scope of work before quoting his rates.
7. The contractors are advised to get acquainted with the proposed work and its site and also study the Architectural Drawings, specifications and special conditions carefully before tendering. No claim of any sort shall be entertained on account of any site conditions and ignorance of specifications and special conditions.
8. The civil work shall be carried out as per **CPWD specifications for works-2019 Vol. I & II** with up to date correction slips unless otherwise specified in the nomenclature of individual item or in the specifications and special conditions, where specifications are silent, the decision of Engineer-in-Charge shall be final and binding on contractors. Road work shall be executed as per latest MORTH specifications.
9. The rates quoted by the contractor shall be taken as net and nothing extra shall be paid on any account i.e. royalty, cartage, GST and stacking at required places & working in restricted area etc.
10. The rates for different items of work shall apply for all heights and depths, leads and lifts unless otherwise specified in the agreement or specifications applicable to the agreement.
11. Any damage done by the contractor to any existing work during the course of execution of the work shall be made good by him at his own cost.
12. Articles manufactured by the reputed firms and approved by Engineer-in-Charge shall only be used. Only articles classified, as 'first quality' by the manufacturer shall be used unless otherwise specified. In case articles bearing ISI certification are not available in the market, quality of samples brought by the contractor shall be judged by standards laid down in the relevant CPWD specifications. For the items not covered by CPWD specifications relevant BIS standards shall apply. The sample of materials to be brought to site for use in work shall be got approved from the Engineer-in-Charge before actual execution of work.
13. Samples of materials required for testing shall be provided free of cost by the contractor. Testing charges, if any, shall be borne by the contractor irrespective of the result.
14. The quantities of each item shall not be exceeded beyond the agreement quantities without prior permission of Engineer-in-Charge.

15. Income tax as per Income tax rules, GST as per rules, 1% Labour Cess and 1% water charges (if departmental water used) will be recovered from the gross amount of the bill.
16. Contractor is to make own arrangement of electricity as department is obliged to provide electricity, However if departmental electricity is used then 1% electricity charges will be recovered from the gross amount of work done but the contractor shall arrange the necessary electrical fittings and cables etc. for taking the electrical power from nearest electrical point to the work site at his own cost.
17. All types of mortars to be used in the work shall be mixed in the mechanical mixer and hand mixing shall not be permitted.
18. The contractor shall make his own arrangement for getting the permission to ply the trucks from the traffic police or any other authority in this regard. .
19. No payment shall be made to the contractor for any damage caused by rain, snow fall, floods or any other natural causes whatsoever during the execution of work. The damage caused to work shall have to be made good by the contractor at his own cost and no claim on this account shall be entertained.
20. Other agencies may also simultaneously be executing the work of electrification, Horticulture or external services and other building works for the same building along with this work. The contractor shall afford necessary facilities for the same and no claim in the matter shall be entertained. The contractor shall especially co-ordinate with the other agency carrying out his work.
21. Some restrictions may be imposed by the security staff etc. on the working and or movement of labour and materials, etc, the contractor shall be bound to follow all such restrictions / instructions and nothing shall be payable on this account.
22. The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrance shall be caused to traffic during the execution of the work by storing materials on the road, VIP's corridor extra.
23. The contractor shall be fully responsible for the safe custody of the material issued or brought by him to site for doing the work.
24. **Testing of materials: -**  
Samples of various materials required for testing shall be provided free of cost by the contractor unless otherwise specified in the item. Testing charges, if any, shall be borne by the contractor. All other expenditures required to be incurred for taking the samples, conveyance, packing etc. shall be borne by the contractor himself.
25. The rate for all items of work, shall unless otherwise clearly specified include cost of all labour, material and other inputs involved in the execution of the items.
26. The order of preference in case of any discrepancy as indicated in condition no. 8.1 under "Conditions of Contract" given in the **General Conditions of contract for Central P.W.D Construction Work 2023 (Amended up to Date)** form may be read as the following.
  - a) Nomenclature of item as per Schedule of Quantities.
  - b) Particular specifications.
  - c) Special conditions.
  - d) Additional conditions.
  - e) General Conditions.
  - f) Tender Drawings attached.
  - g) CPWD Specifications as applicable.
  - h) Contract Clauses of **General Conditions of contract for Central P.W.D Construction Work 2023 (Amended up to Date)** form.
  - i) Architectural/structural drawings and specifications mentioned in drawings.
  - j) Indian Standard Specifications of BIS.
  - k) Manufacturers specifications.
  - l) Sound engineering practice as per directions of the Engineer-in-Charge.

Any reference made to any Indian Standard Specifications and other specifications mentioned in the respective items in these documents, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The contractor shall keep at his own cost all such publications of relevant Indian Standards applicable to the work at site.

27. The contractor will not have any claim in case of any delay by the Engineer-in-Charge in removal of trees or shifting, removing of telegraph, telephone or electric lines (overhead or underground), water and sewer lines and other structure etc., if any which may come in the way of the work. However, suitable extension of time can be granted to cover such delay.
28. The malba /garbage generated at site due to construction activities shall be removed from the site immediately & shall be disposed off by the contractor to the approved dumping site identified by the Engineer-in-charge. The surplus soil/earth shall be disposed of as per the directions of Engineer-in-charge separately.
29. The contractor shall clean the site thoroughly of scaffolding materials, rubbish, equipments left out of his work and dress the site around the building to the complete satisfaction of the Engineer-in-charge before the work is treated as completed.
30. **Maintenance of Register of Tests-** All the registers of tests carried out at Construction Site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge.
31. **Maintenance of Material at Site (MAS) Register-** All the MAS Registers including Cement and Steel Registers shall be maintained by Contractor which shall be issued to the contractor by Engineer-in-Charge.
32. Contractor shall be responsible for safe custody of all the test registers.
33. Contractor shall provide permanent bench marks and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings
34. The contractor shall fully comply with all legal orders and directions of the Public or local authorities or municipality and adhere by their rules and regulations and pay all fees and charges for which he may be liable in this regard. Nothing extra shall be paid/reimbursed for the same.
35. The building work shall be carried out in the manner complying in all respects with the requirements of the relevant bylaws and regulations of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-charge and nothing extra shall be paid on this account.
36. The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted by making his own arrangements for water supply, electricity etc. and nothing extra whatsoever shall be payable for the same.
37. It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
38. The structural and architectural drawings shall at all times be properly co-related before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless otherwise given in writing by the Engineer-in-charge.
39. The contractor shall maintain in perfect condition, all portions executed till completion of the entire work allotted to him. Where however phased delivery of work is contemplated these provisions shall apply separately to each phase.
40. The entire royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingle sand etc. collected by him for execution of the work, directly to the Revenue authority or authorized agents of the State Government concerned or the Central Government, as the case may be.
41. Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

42. The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.
43. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department.
44. Any cement slurry added over base surface for continuation of concreting for better bond is deemed to have been built in the items and nothing extra shall be payable for extra cement considered in consumption on this account.
45. The contractor shall take instructions from the Engineer-in-charge for stacking of materials. No excavated earth or building materials etc. shall be stacked/collected in areas where other buildings, roads, services, compound walls etc. are to be constructed.
46. Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.
47. The works shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time by the Engineer-in-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work and satisfy himself that the information available thereof is complete and unambiguous. The discrepancy, if any, shall be brought to the notice of the Engineer-in-Charge before execution of the work. The contractor alone shall be responsible for any loss or damage executing by the commencement of work on the basis of any erroneous and or incomplete information.
48. All Architectural drawings given in the tender other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fixings involved unless and otherwise specifically mentioned. However, the work shall be executed in accordance with the drawings duly approved by the Engineer-in-Charge.
49. On completion of work, the contractor shall submit at his own cost soft and hard four prints in A2 size of "as built" drawings to the Engineer-in-Charge within 30 days of completion of work. These drawings shall have the following information:
  1. Route of all piping and their diameters including soil waste pipes & vertical stacks.
  2. Ground and invert levels of all drainage pipes together with locations of all manholes and connections upto outfall.
  3. Route of all water supply lines with diameters, location of control valves, access panels etc.

### ADDITIONAL CONDITIONS

1. The contractor shall prepare one sample of all items which should be got approved from the Engineer-in-Charge. Only on acceptance of sample work, contractor will be allowed to commence the work and sample is to be preserved by contractor till the whole work is completed. The quality of work should be as per approved samples.
2. The contractor and/ or his authorized representative should inspect the site order book every day and get the compliance noted by the JE/ AE/ Engineer-in-Charge.
3. If the work is carried out in more than one shift or during night, no claim on this account shall be entertained.
4. The dismantling wherever required shall be done in a manner so that no other portions of the building or its fixtures are damaged. If any damage is done to the building it shall be made good by the contractor at his own cost and no claim whatsoever shall be entertained on this account.
5. The rates for all items of work shall (Unless clearly specified) include the cost of all labour material and other aspects involved in the execution of work.
6. Due to Security reason the contractor shall have to arrange time table of labour according to the requirement of security staff and the instructions of the Engineer-in-Charge. The contractor should see the site before tendering.
7. In the event of any restrictions being imposed by the Security agency, CPWD, Traffic or any other authority having jurisdiction in the area on the working or movement of labour /material, the contractor shall strictly follow such restrictions and nothing extra shall be payable to the contractor on this account. The loss of time on this account, if any, shall have to be made up by generating additional resources etc. General Security restrictions are given as under:
  - (i) Due to the site restrictions, there is no possibility for labour huts to be erected at site.
  - (ii) The labourers / staff should not be changed too frequently once the verification of the character and antecedents is done.
  - (iii) As and when there will be security requirements, certain additional restriction (s) can be imposed as per the requirement of the situation.
  - (iv) No claim whatsoever will be entertained by the department on account of any restriction (s) imposed by the security agencies in execution of work.
8. The contractor shall make his own arrangement for getting the permission to ply the trucks from the traffic police or any other authority.
9. The contractor shall be responsible for behavior and conduct of his worker. No worker with doubtful integrity or having a bad record shall be engaged by the contractor.
10. Contractor has to associate with specialized agencies for specialized items of works as given in **Page No. 60** Only those specialized agencies/firms who have satisfactorily executed works as per following criteria during last seven years are eligible for the specialized works:
  - (i) One work of 80% of Item.
  - (ii) Two work of 60% of Item.
  - (iii) Three work of 40% of Item.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of bid.

11. Contractor has to deploy required plant and machinery on the project. Minimum number of plant and machinery to be deployed by him is indicated at **Page No. 83**. In case the contractor fails to deploy the plant and machinery whenever required and as per the direction of the Engineer-in-charge, he (Engineer-in-charge) shall be at a liberty to get the same deployed at the risk and cost of the contractor.

12. Contractor has to provide reinforcement cover blocks made of approved proprietary pre packed free flowing mortars (**Conbextra** as manufactured by M/s Fosroc Chemical India Ltd. or equivalent as approved) of high early strength.
13. Every precaution must be taken to see that the furniture/ furnishing are properly covered with tarpaulin etc. If necessary, furniture / furnishing shall be removed from the site while carrying out the repair washing work in that case furniture/ furnishing will be placed back.
14. Defective work, sub-standard work or work not done according to the specifications of the contract shall be liable for summarily rejection and shall not be measured and paid for. This shall be without prejudice to taking any other action against the contractor in accordance with the other terms and conditions of the contract.
15. The agency can be asked to submit documentary proof of procurement from the mentioned agencies i.e. Bill/ Invoice etc.

## **16. Quality Assurance**

- 16.1 The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed along with check lists to enforce quality control.
- 16.2 The contractor shall get the source of all other materials, not specified elsewhere in the document, approved from the Engineer-in-Charge. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost. Similarly, the contractor shall submit brand/ make of various materials not specified in the agreement, to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.
- 16.3 The contractor shall submit shop drawings of staging and shuttering arrangement, aluminum work, and other works as desired by Engineer-in-Charge for his approval before execution. The contractor shall also submit bar bending schedule for approval of Engineer-in-charge before execution.

### **16.4 Test Laboratories:**

#### **A) Laboratory at site:**

The contractor shall establish a testing lab at site and provide testing equipment and materials for the field tests mentioned in the list of mandatory tests given in **CPWD Specifications 2019** Vol. 1 & 2. Nothing extra shall be payable to him on this account.

The representatives of the department shall be at liberty to inspect the testing facilities at site and conduct testing at random in consultation with Engineer in charge. The contractor shall provide all necessary facilities for the purpose.

Not less than 90% tests for material be performed at site lab with above stated equipment's, however at least 10% testing of materials shall be got done from external laboratories. However, for the tests to be carried out by the external laboratories, the contractor shall supply free of charge all the materials required for testing, including transportation.

**B) Other Laboratories:**

- B1** The contractor shall arrange carrying out all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and **all expenditure for testing to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.**
- B2** If the tests, which were to be conducted in the site laboratory are conducted in other laboratories for any the reasons, the cost of such tests shall be borne by the contractor.

**16.5 Sampling of Materials:**

- 16.5.1 Sample of building materials fittings and other articles required for execution of work shall be got approved from the Engineer-in-Charge. Articles manufactured by companies of repute and approved by the Engineer-in-Charge shall only be used. Articles bearing BIS certification mark shall be used in case the above are not available, the quality of samples brought by the contractor shall be judged by standards laid down in the relevant BIS specifications. All materials and articles brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work.
- 16.5.2 The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-Charge.
- 16.5.3 BIS marked materials except otherwise specified shall be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specifications described for the item/materials. Wherever BIS marked materials are brought to the site of work, the contractor shall if required, by the Engineer-in-Charge furnish manufacturers test certificate to establish that the material produced by the contractor for incorporation in the work satisfies the provisions of BIS codes relevant to the material and/or the work done.
- 16.5.4 The contractor shall procure all the materials in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.
- 16.5.5 All materials brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.
- 16.5.6 The contractor shall be fully responsible for the safe custody of the materials issued to him even if the materials are in double lock and key system.
- 17 The rate of items of flooring is inclusive of providing sunken flooring at bath rooms. kitchen etc. and nothing extra on this account is admissible.
- 18 Separate cement registers showing the receipt of the OPC and PPC shall be maintained at site. The contractor shall construct separate godowns for storage of OPC & PPC at site and nothing extra on this account shall be payable.
- 19 In case there is any discrepancy in frequency of testing as given in the list of mandatory tests and that in the individual sub-head of work as per **CPWD specification 2019** Vol. 1 & 2 the higher of the two frequencies of testing shall be adopted.
- 20 The contractor shall have the responsibility for Preparation and submission (in required format) all Drawings and documentations to Local Body Authorities and obtaining approval/No-objection Certificate for the Project if required from :
- (i) Respective local Municipal Corporation/Block Office/Panchayat.
  - (ii) Respective local Fire & Emergency Services.
  - (iii) Civil Aviation/Airports Authority of India (if required).
- And/or any other Authorities deemed necessary.

**Preliminary Architectural Drawings will be given by the department.**

- 21 In case of boundary wall, retaining wall etc. wherever there is level difference in Ground Level, the higher level will be considered as Ground Level for distinguishing the foundation work & super structure work.
- 22 It is mandatory for contractor to construct, a well-furnished masonry site office of size 15 feet x 12 feet and a rest room of size 12 feet x 10 feet with attached toilet, furnished (as mentioned below) with 24 x 7 electricity supply with provision of generator & inverter-cum-battery, within one month from date of issue of letter for commencement of work, non-compliance of which will invite a penalty of ₹ 2000.00 per day against contractor. No payment on this account shall be made to the Agency.

**Furniture:** 1 (One) No. Almirah of size 6 feet x 3 feet, 02 (Two) Table of size 4 feet x 2.5 feet, 10 (Ten) Nos. Chairs, 01 No. Computer with printer.

- 23 It is mandatory for contractor to provide shuttering & go for concreting in following manner:-
- (a) Contractor must have shuttering for atleast one-third of total footings & pedestal for each block to ensure RCC casting of these footings and pedestal in one go.
  - (b) Contractor must have shuttering for atleast one-third of total columns for one floor of each block to ensure RCC casting of these columns in one go.
  - (c) Contractor must have 100% shuttering for beams & slab for one floor of each block to ensure RCC casting of one floor slab & beam in one go.

## **Special Conditions to comply directives of Hon'ble National Green Tribunal and EIA Guidance Manual**

1. The contractor shall not store/dump construction material or debris on metalled road.
2. The contractor shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and /or other similar material to ensure that no construction material dust fly outside the plot area.
4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precaution that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/contaminate air.
5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
7. The contractor shall ensure that C&D waste is transported to the C & D Waste site only and due record shall be maintained by the contractor.
8. The contractor shall compulsory use of wet jet in grinding and stone cutting.
9. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
10. The contractor shall carry out on-Road- Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
11. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
12. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
13. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
14. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects. The NIT approving authority shall carry out cost benefit ratio analysis of the same.

## 1.0 SPECIAL CONDITIONS

### GENERAL

- 1.1 The Contractors are advised to inspect and examine the site and its surroundings and satisfy themselves with the nature of site, the means of access to the site, the constraints of space for stacking material / machinery, labour etc. constraints put by local regulations, if any, weather conditions at site, general ground / subsoil conditions etc. or any other circumstances which may affect or influence their tenders. The Contractor shall carry out survey of the work area, at his own cost, setting out the layout and fixing of alignment of the building as per architectural and Structural drawings in consultation with the Engineer-in-Charge. Any discrepancy between the architectural drawings and actual layout at site shall be brought to the notice of the Engineer-in-charge. It shall be responsibility of the Contractor to ensure correct setting out of alignment. Nothing extra shall be payable on this account. No claims, whatsoever, shall be entertained at a later date for any errors found, on plea that the information supplied by the Department in the tender is insufficient or is at variance with the actual site conditions.
- 1.2 The Contractor shall, if required by him, before submission of the tender, inspect the drawings in the Office of the Executive Engineer concerned. Department shall not bear any responsibility for the lack of knowledge and also the consequences, thereof to the Contractor. The information and data shown in the drawings and mentioned in the tender documents have been furnished, in good faith, for general information and guidance only. The Engineer-in-Charge, in no case, shall be held responsible for the accuracy thereof and/or interpretations or conclusions drawn there from by the Contractor and all consequences shall be borne by the Contractor. No claim, whatsoever, shall be entertained from the Contractor, if the data or information furnished in tender document is different or in-correct otherwise or actual working drawings are at variance with the drawings available for inspection or attached to the tender documents. It is presumed that the Contractor shall satisfy himself for all possible contingencies, incidental charges, wastages, bottlenecks etc. likely during execution of work and acts of coordination, which may be required between different agencies. Nothing extra shall be payable on this account.
- 1.3 The nomenclature of the item given in the schedule of quantities gives in general of the work content but is not exhaustive i.e. does not mention all the incidental works required to be carried out for complete execution of the item of work. The work shall be carried out, all in accordance with true intent and meaning of the specifications and the drawings taken together, regardless of whether the same may or may not be particularly shown on the drawings and/or described in the specifications, provided that the same can be reasonably inferred there from may be several incidental works, which are not mentioned in the nomenclature of each item but will be necessary to complete the item in all respect. All these incidental works / costs which are not mentioned in item nomenclature but are necessary to complete the item shall be deemed to have been included in the rates quoted by the contractor for various items in the schedule of quantities. No adjustment of rates shall be made for any variation in quantum of incidental works due to variation / change in actual working drawings. Also, no adjustment of rates shall be made due to any change in incidental works or any other deviation in such element of work (which is incidental to the items of work and are necessary to complete such items in all respects) on account of the directions of Engineer-in-Charge. Nothing extra shall be payable on this account.
- 1.4 The contractor(s) shall give to the local body, police and other authorities all necessary notices etc. that may be required by law and obtain all requisite licenses for temporary obstructions, enclosures etc. and pay all fee, taxes and charges which may be leviable on account of these operations in executing the contract. He shall make good any damage to the adjoining property whether public or private and shall supply and maintain lights either for illumination or for cautioning the public at night.

- 1.5 The contractor(s) shall execute the work simultaneously at all sites. He has to establish site office alongwith all necessary arrangements at all sites simultaneously.
- 1.6 The contractor(s) shall cordon off the area suitably so that the other buildings/ offices remain functional during execution of the work.
- 1.7 Staff/labour shall be deployed for each site of work independently by the contractor.

#### **BY-LAWS AND REGULATIONS**

All work shall conform to the statutory Bye-laws and Regulations of the concerned authority/Municipality, Fire Services as applicable to the Project. If the tender specifications and drawings are more stringent than required as per the Local Authorities then the tender specifications and drawings shall be followed. In the other case, if the local authorities more stringent specifications than those specified in the tender specifications, then the set by-laws and regulations shall be followed at no extra cost.

Proper temporary barricading by fencing with G.I. sheets, shall be carried out by the Contractor at the start of work to physically define the boundaries of the plot for restricted entry to only those involved in the work and also to prevent any accidents, at the same time without causing any inconvenience to the traffic and the users of the buildings in the adjacent plots. It shall be done by providing, erecting, maintaining temporary protective barricading of minimum 2.0 metres in height, made in panels, with each panel having MS frames / MS scaffolding pipes of suitable size and stiffness, with 24 gauge thick GI corrugated sheet or suitably stiffened plain GI sheet fixed on frames. Such panels shall be suitably connected to each other for stability with nuts and bolts, hooks, clamps etc. and fixed firmly to the ground at about 2 metres spacing, for the entire duration till completion of the work. He shall also provide and erect temporary protective barricades within the plot, if required, to prevent any accident. Temporary protective roofing near the Entrance to the building, under construction, shall be made to protect the visiting officials from getting hurt by falling debris etc. Also, one or more coat of enamel paint of shade as approved and directed by the Engineer-in-Charge shall be applied on the panels and "CPWD" shall be painted over that in suitable sizes, shapes and numbers as directed by the Engineer-in-Charge. It shall be dismantled and taken away by the Contractor after the completion of work at his own cost with the approval of the Engineer-in- Charge. Nothing extra shall be payable on this account, unless otherwise specified.

- 1.8 The Contractor(s) shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night. In case of any accident of labours/ contractual staffs the entire responsibility will rest on the part of the contractor and any compensation under such circumstances, if becomes payable, shall be entirely borne by the contractor.
- 1.9 The work shall generally be carried out in accordance with the “CPWD Specifications 2019 Vol. I & II” with correction slips issued upto the last date of submission of tender, additional/Particular Specifications, architectural/Structural drawings, mechanical, electrical, plumbing and as per instructions of Engineer-in-Charge. Any additional item of the work, if taken up subsequently, shall also confirm to the relevant CPWD specifications as mentioned above.
- 1.10 The several documents forming the tender are to be taken as mutually complementary to one another. Detailed drawings shall be followed in preference to small scale drawings and figured dimensions in preference to scale dimensions.
- 1.11 The works to be governed by this contract shall cover delivery and transportation up to destination, safe custody at site, insurance, erection, testing and commissioning of the entire works.

The works to be undertaken by the contractor shall inter-alia include the following:

- (i) Preparation of detailed SHOP drawings and AS BUILT drawings wherever applicable.
  - (ii) Obtaining of Statutory permissions where-ever applicable and required.
  - (iii) Pre-commissioning tests as per relevant standard specifications, code of practice, Acts and Rules wherever required.
  - (iv) Warranty obligation for the equipments and / or fittings/fixtures supplied by the contractor. Contractor shall provide all the shop drawings or layout drawings for all the co-ordinated services before starting any work or placing any order of any of the services etc. These shop drawings/layout drawings shall be got approved from Engineer-in-charge before implementation and this shall be binding on the contractor. The contractor shall submit material submittals along with material sample for approval of Engineer-in-Charge prior to delivery of material at site.
- 1.12 The work shall be carried out in accordance with the approved architectural drawings, structural drawings, MEP services drawings to be issued from time to time, by the Engineer-in-Charge, and approved shop drawings prepared by the Contractor. Before commencement of any item of work the contractor shall correlate all the relevant architectural and structural drawings, nomenclature of items and specifications etc. issued for the work and satisfy him that the information available from there is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in- charge before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information and no claim whatsoever shall be entertained by the department on this account.
- 1.13 Unless otherwise provided in the Schedule of quantities the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing extra shall be payable to him on this account.
- 1.14 The Contractor(s) shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. The stacking shall take place as per stacking plan however, if any change is required, the same shall be done with the approval of Engineer-in-Charge.
- 1.15 The contractor shall engage specialized agency for carrying out specialized items as listed in **para 1.47 below**, covered in of the schedule of Quantity Immediately after award of work, the contractor shall submit for the approval of NIT approving authority, the name of the agency along with their working experience and credentials, presentation on method statement and materials being used for execution of such items etc. Delay on the part of contractor in submitting the proposal for approval of competent authority shall be his responsibility and no extension of time shall the granted on this account.
- 1.16 The Contractor shall bear all incidental charges for cartage, storage and safe custody of materials, if any, issued by department as well as to those materials also arranged by the contractor.
- 1.17 Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the items and nothing extra shall be payable or extra cement considered in consumption on this account.
- 1.18 The contractor shall give performance test of the entire installation(s) as per the specifications in the presence of the Engineer-in-charge or his authorized representative before the work is finally accepted and nothing extra what-so-ever shall be payable to the contractor for such test.

- 1.19 Water tanks, taps, sanitary, water supply & drainage pipes, fittings & accessories should conform to bye-laws of local body/corporation, where CPWD specifications are not available. The Contractor should engage approved, licensed plumbers for the work and get the materials (fixtures/fittings) tested, by the municipal Body/ Corporation authorities wherever required at his own cost. The Contractor shall submit for the approval of the NIT approving authority, the name of the plumbing agency (along with their working experience in recent past) proposed to be engaged by him.
- 1.20 The contractor shall make his own arrangements for water and for obtaining electric connections if required and make necessary payments directly to the State Govt. departments concerned. Contractor shall get the water tested from laboratory approved by the Engineer-in-charge at regular interval as per the **CPWD Specifications 2019**. All expenses towards collection of samples, packing, transportation etc. shall be borne by the contractor. Agency shall neither be allowed to use existing bore well, if any. They may have to arrange water through tankers from any outside source after taking due permission from concerned authority.

## **1.21 PREVENTION OF NUISANCE AND POLLUTION CONTROL**

The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties from pollutants like smoke, dust, noise. The contractor shall use such methodology and equipment so as to cause minimum environmental pollution of any kind during and minimum hindrance to road users and to occupants of the adjacent properties or other services running adjacent/near vicinity. The contractor shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross drainage works or public or private property whatsoever caused due to the execution of the work or by traffic brought thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor, without any reservation, entirely to the satisfaction of the Engineer-in-Charge.

- 1.22 Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the nearby occupants/users of building(s), if any.

## **1.23 SECURITY AND TRAFFIC ARRANGEMENTS**

In the event of any restrictions being imposed by the Security agency, CPWD, Traffic or any other authority having jurisdiction in the area on the working or movement of labour /material, the contractor shall strictly follow such restrictions and nothing extra shall be payable to the contractor on such accounts. The loss of time on these accounts, if any, shall have to be made up by augmenting additional resources whatever required.

- 1.24 If as per the rules of the local authority, the huts for labour are not to be erected at the site of work by the contractors, the contractors are required to provide such accommodation as is acceptable to local bodies and nothing extra shall be paid on this account. No accommodation is available at the site of work. The labour huts shall not be erected on the plot and the Contractor shall make his own arrangements to provide such accommodation as per the rules of the local bodies. He shall make his own arrangements for stores, field office etc. Before tendering, he shall visit the site and assess the manner in which he is able to arrange the above facilities. The Engineer-in-Charge shall in no way be responsible for any delay on this account and no claim, whatsoever, on this account shall be entertained.
- 1.25 No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and the work for which payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P/Machinery brought to the site by him.

- 1.26 The contractor shall construct suitable godowns, yard at the site of work for storing all other materials so as to be safe against damage by sun, rain, damages, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose at his cost.
- 1.27 All materials obtained from contractor shall be got checked by the representative of Engineer-in-Charge on receipt of the same at site before use.
- 1.28 Royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingle sand and bajri etc. collected by him for the execution of the work, direct to the Revenue authority or authorized agent of the State Government concerned or Central Government.
- 1.29 The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including all equipments, services provided by him against pilferage and breakage during the period of Installations and thereafter till the building is physically handed over to the Central Public Works Department, the User/Client Department. No extra payment shall be made on this account and no claim shall be admissible on this account.
- 1.30 The Contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by Collector / Local Authority / Municipal Corporation and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The Contractor shall also adhere to all traffic restrictions notified by the local authorities. The extra sewerage charges (one time charges for commencement of work) required to be paid to the Municipal Corporation/ other statutory bodies shall be paid by the department and need not be considered by the contractor. All statutory taxes, levies, charges (including water and sewerage charges, charges for temporary service connections and / or any other charges) payable to such authorities for carrying out the work, shall be borne by the Contractor. The water charges (for municipal water connection as well as tanker water) shall be borne by the contractor. Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent sewerage charges shall be borne by the contractor.

The Contractor shall arrange to give all notices as required by any statutory / regulatory authority and shall pay to such authority all the fees that is required to be paid for the execution of work. He shall protect and indemnify the Department and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts. The fee payable to statutory authorities for obtaining the various permanent service connections and Occupancy Certificate for the building shall be borne by the Department.

- 1.31 For works below ground level the contractor shall keep that area free from water. If dewatering or bailing out of water is required the contractor shall do the same at his own cost and nothing extra shall be paid except otherwise provided in the items of Schedule of Quantities.
- 1.32 The Contractor shall make all necessary arrangements for protecting from rains, fog or likewise extreme weather conditions, the work already executed and for carrying out further work, during monsoon including providing and fixing temporary shelters, protections etc. Nothing extra shall be payable on this account and also no claims for hindrance shall be entertained on this account.
- 1.33 In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, no claim financially or otherwise shall be entertained notwithstanding any other provisions elsewhere in the contract agreement. Also, the Contractor shall make good, at his own cost, the damages caused, if any. Further, no claims for hindrance shall be entertained on this account.

- 1.34 The contractor will take reasonable precautions to prevent his workman and employees from removing and damaging any flora (plant/vegetation) from the project area.

### 1.35 SETTING OUT

- (i) The Contractor shall carry out survey of the work area, at his own cost, setting out the layout of building in consultation with the Engineer -in-Charge & proceed further. Any discrepancy between the Engineer-in-charge, architectural drawings and actual layout at site shall be brought to the notice of the Engineer -in-charge. It shall be responsibility of the Contractor to ensure correct setting out of alignment. Total station survey instruments only shall be used for layout, fixing boundaries, and centre lines, etc., Nothing extra shall be payable on this account.
- (ii). The Contractor shall establish, maintain and assume responsibility for grades, lines, levels and benchmarks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions etc. to the Engineer -in-Charge before commencing work. Commencement of work shall be regarded as the Contractor's acceptance of such grades, lines, levels, and dimensions and no claim shall be entertained at a later date for any errors found.
- (iii). If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the Contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer -in-Charge. Nothing extra shall be payable on this account.
- (iv). Though the site levels are indicated in the drawings the Contractor shall ascertain and confirm the site levels with respect to benchmark from the concerned authorities. The Contractor shall protect and maintain temporary/ permanent benchmarks at the site of work throughout the execution of work. These benchmarks shall be got checked by the Engineer-in-Charge or his authorized representatives. The work at different stages shall be checked with reference to bench marks maintained for the said purpose. Nothing extra shall be payable on this account.
- (v). The approval by the Engineer-in-Charge, of the setting out by the Contractor, shall not relieve the Contractor of any of his responsibilities and obligation to rectify the errors/defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.
- (vi). The Contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignments, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the Contractor at his own cost to the entire satisfaction of the Engineer - in-Charge.
- (vii). The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work (including marking of reference points, center lines of buildings), construction and maintenance of reference bench mark(s), taking spot levels, construction of all safety and protection devices, barriers, barricading, signage, labour safety, labour welfare and labour training measures, preparatory works, working during monsoon, working at all depths, height and location etc. and any other incidental works required to complete this work. Nothing extra shall be payable on this account.
- (viii) The contractor(s) shall study the soil investigation report for the site, available in the office of the Engineer-in-Charge and satisfy himself about complete characteristics of soil and other parameters at site. However, no claim on the alleged inadequacy or incorrectness of the soil data supplied by the department shall be entertained.

- 1.36 A site laboratory with the minimum equipments as specified in CPWD specifications/in this agreement shall be established, made functional and maintained within a week from the award of work as per without any extra cost to the department. In case of non compliance / delay in compliance in this, a recovery @ **Rs. 2000.00 per day** will be imposed which will be recovered from the immediate next R/A Bill of the Contractor.

### 1.37 COORDINATED DRAWINGS

- I. Before taking up the work, the contractor shall prepare shop drawings for the works listed below for various civil and electrical services showing details of lay out in plan including sections & elevations & large scale details and contractor shall plan and mobilize his resources as per these drawings and as per actual site conditions to facilitate convenient execution, installation as well as maintenance of these items.. Nothing extra shall be payable on this account.

#### II. SHOPDRAWINGS

The bill of quantities, technical specifications and drawings together shall be considered as a tender requirement and the work shall be carried out as per good for construction (GFC) drawings, issued by Engineer-in-charge. The contractor shall study the GFC drawings and taking into account actual site conditions and selected material and requirements shall prepare shop drawings for the following works, as fully coordinated drawings, as given above.

- a. Aluminium work, Stainless steel work and railings etc.
- b. Expansion joint work
- c. Suspended ceiling work, coordinated with all ceiling related services.
- d. Marble, granite, vitreous, ceramic, tile work details.
- e. All Electrical work
- f. All Sanitary and sewerage work
- g. All plumbing works.
- h. Rain Water Pipe details/ position, roof slopes etc.
- i. Drainage details.
- j. Door Window details.
- k. All steel fabrication work.
- l. PUF panel ceiling/roofing work.
- m. Wall panelling works.
- n. Flooring works.
- o. Catwalks works.
- p. Any other works detail if required.

The shop drawings shall be prepared timely by contractor and submitted to CPWD for approval to achieve the milestones provided.

- (i) Within the time frame agreed with the Engineer-in-charge, the contractor shall prepare shop drawings using latest version of AutoCAD. Shop drawings shall show all layouts, details in plans & sections showing all connections, junctions, bends, supports, clearances. fixing arrangements with dimensions room, etc shall be prepared by the contractor on AutoCAD based on the architectural drawings and site measurements. All measurable items quantities shall be mentioned on each shop drawing being submitted for approval by the contractor. 3 sets of shop drawings (soft copy also) shall be submitted for approval and Seven sets of final shop drawings after approval by Engineer-in-charge shall be submitted by the contractor along with the soft copy. The shop drawings, shall be prepared as per schedule given in PERT Chart.

Technical submittals of manufacturer's catalogues and technical data shall be submitted for approval. The contractor shall designate an Engineer responsible for issue and preparation of shop drawings and control of GFC drawings.

**1.38 TOOLS AND PLANTS**

The bidder should have own constructions equipment required for the proper and timely execution of the work. Nothing extra shall be paid on this account.

No tools and plants including any special T&P etc. shall be supplied by the Department and the Contractor shall have to make his own arrangements at his own cost. No claim of hindrance (or any other claim) shall be entertained on this account.

**1.39 SCAFFOLDING**

For the execution of work, all the scaffolding shall be provided and suitably fixed, by the Contractor. It shall be provided strictly with steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. Nothing extra shall be payable on this account. It shall be ensured that no damage is caused to any structure due to the scaffolding except for the work of vertical extension where vertical & horizontal scaffolding alongwith screen to prevent pollution and debris from following alongwith proper access to be provided for which payment shall be made.

1.40 The Contractor shall do proper sequencing of the various activities by suitably staggering the activities within various pockets in the plot so as to achieve early completion. The agency to deploy adequate equipment, machinery and labour as required for the completion of the entire work within the stipulated period specified. Also ancillary facilities shall be provided by contractor commensurate with requirement to complete the entire work within the stipulated period. Nothing extra shall be payable on this account. Adequate number/sets of equipment in working condition, along with adequate stand-by arrangements, shall be deployed during entire construction period. It shall be ensured by the Contractor that all the equipment, Tools & Plants, machineries etc. provided by him are maintained in proper working conditions at all times during the progress of the work and till the completion of the work. Further, all the constructional tools, plants, equipment and machineries provided by the Contractor, on site of work or his workshop for this work, shall be exclusively intended for use in the construction of this work and they shall not be shifted/ removed from site without the permission of the Engineer-in-Charge.

1.41 The Contractor shall maintain all the work in good condition till the completion of entire work. The Contractor shall be responsible for and shall make good, all damages and repairs, rendered necessary due to fire, rain, traffic, floods or any other causes. The Engineer-in-Charge shall not be responsible for any claims for injuries to person/workmen or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the Contractor or of any other of his representatives, in his employment during the execution of the work. The compensation, if any, shall be paid directly to the Department / authority / persons concerned, by the Contractor at his own cost.

**1.42 ROYALTY**

Royalty at the prevalent rates shall be paid by the Contractor as per the terms of supply between them, on all materials such as boulders, metals, all sizes stone aggregates, brick aggregates, coarse and fine sand, moorum, river sand, gravels and bajri etc. collected by him for the execution of the work, directly to the revenue authority of the state government concerned. Further, contractor needs to submit proof of submission of full royalty to the state government or local authority. Nothing extra shall be payable on this account.

**1.43 PRESERVATION AND CONSERVATION MEASURES**

- (i) Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services, if any, encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. In case the same are to be removed and diverted, expenditure incurred in doing so shall be payable to the contractor. The contractor shall work out the cost, get the same approved by Engineer-in-Charge before taking up actual execution. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.
- (ii) All fossils, coins, articles of value of antiquity, structures and other remains or things of geological or archaeological interest discovered on project location during excavation/construction shall be the property of the Government, and shall be dealt with as per provisions of the relevant legislation. The contractor will take reasonable precaution to prevent his work men or any other persons from removing and damaging any such article or thing. He will, immediately upon discovery thereof and before removal acquaint the Engineer-in-charge of such discovery and carry out the official instructions of Engineer-in-charge for dealing with the same, till then all work shall be carried out in a way so as not to disturb/damage such article or thing.

**1.44 RESPONSIBILITY**

- (i) He shall protect and indemnify the Department / CPWD and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts.
- (ii) The fee payable to statutory authorities for obtaining the various permanent service connections and Building Use Certificate for the building shall be borne by the CPWD.
- (iii) The Contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify the Department from any and all damages and claims that may arise on any account. The Contractor shall indemnify the Department against all claims in respect of patent rights, royalties, design, trademarks- of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the Department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.

**1.45 CO-OPERATION WITH OTHER CONTRACTORS/SPECIALIZED AGENCIES/ SUB-CONTRACTORS**

- (i) The Contractor shall take all precautions to abide by the environmental related restrictions imposed by any statutory body having jurisdiction under which site of construction falls as well as prevent any pollution of streams, ravines, river bed and waterways. All waste or superfluous materials shall be transported by the Contractor, entirely to the satisfaction of the Engineer- in-Charge and disposed at designated places only. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, lack of public transport, , inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the Tenderers are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.

- (ii) The Contractor shall cooperate with and provide the facilities to the sub-Contractors and other agencies working at site for smooth execution of the work. The contractor shall indemnify the Department (CPWD) against any claim(s) arising out of such disputes. The Contractor shall:
  - (a) Allow use of scaffolding, toilets, sheds etc.
  - (b) Properly co-ordinate their work with the work of other Contractors.
  - (c) Provide control lines and benchmarks to his Sub-Contractors and the other Contractors.
  - (d) Provide electricity and water at mutually agreed rates.
  - (e) Provide hoist and crane facilities for lifting material at mutually agreed rates.
  - (f) Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.
  - (g) Adjust work schedule and site activities in consultation with the Engineer-in-Charge and other Contractors to suit the overall schedule completion.
  - (h) Resolve the disputes with other Contractors/ sub-contractors amicably and the Engineer-in-Charge shall not be made intermediary or arbitrator.
- (iii) The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines viz. sanitary & water supply, drainage, rain water harvesting, electrical, firefighting, information technology, communication & electronics and any other services.
- (iv) Other agencies as employed by the contractor, will also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works and includes provision of inserts and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
- v) The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-In-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and in a proper co-ordination manner and shall perform it in proper sequence to the complete satisfaction of others.

#### 1.46 SUPERVISION OF WORK

The Contractor shall depute Site Engineer & skilled workers as required for the work. He shall submit organization chart along with details of Engineers and supervisory staff. It shall be ensured that all decision making powers shall be available to the representatives of the Contractor available at site itself to avoid any likely delays on this account. The Contractor shall also furnish list of persons for specialized works to be executed for various items of work. The Contractor shall identify and deploy key persons having qualifications and experience in the similar and other major works, as per the field of their expertise. If during the course of execution of work, the Engineer-in-Charge is of the opinion that the deployed staff is not sufficient or not well experienced; the Contractor shall deploy more staff or better-experienced staff at site to complete the work with quality and in stipulated time limit.

### 1.47 Specialized Agencies

- (i) The composite tender comprises of two main components: viz. civil work and E & M works. The list of specialized agencies for civil works is as below:
1. \*\*Water proofing treatment work
  2. Steel work in steel bridge work, space frames for long span structures, steel towers.
  3. \*\*Special foundations including all types of piles.
  4. RCC Overhead Tank with independent staging.
  5. Structural Repair and Rehabilitation/ Retrofitting works.
  6. Soil Investigation and Survey Work
  7. \*\*Facade cleaning system and façade cleaning.
  8. Custom made wooden furniture (factory made).
  9. Diaphragm walls.
  10. Post construction Anti-termite chemical treatment.
  11. Water Treatment Plants
  12. Security to vacant bungalows/premises.
  13. Tentage works.
  14. Washing dry cleaning works.
  15. Synthetic play area surface for games.
  16. Environment Impact Assessment Study and Environment Clearance.
  17. Any other works detail if required.

**Note:** "For these works, Specialized Agencies shall have to be associated by the CPWD/ Non CPWD Contractors in case the Contractor does not possess the requisite eligibility and experience as per the NIT conditions to carry out these works.

The contractor shall submit the credential of specialized agency well in advance for the approval of NIT Approving Authority as per the direction of Engineer-in-charge. After verification of the same, written approval will be conveyed to main contractor in this regard. The quantum of credentials will be broadly in line with CPWD guidelines. The main contractor shall not change the specialized agency. However, if the change is warranted, he may do so, with permission of NIT approving authority. However before making any such change he has to enter into similar agreement as with previous agency & submit the same to Engineer-in-Charge for approval. This shall however be without any change in the accepted rates of the contract agreement and without any cost implications to the Department.

- (ii) It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialized Agencies without any time & cost overrun to the Department. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the specialized agencies / sub- contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. No extension of time shall be granted and no claim what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agencies or any dispute amongst them.

**1.48 RATES**

- (i) The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers as per drawing supplied by Engineer in charge, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location, implementation of green building norms to achieve desired GRIHA Rating etc. and any other unforeseen but essential incidental works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.
- (ii) The rates quoted by the tenderer, shall be firm and inclusive of all taxes and levies (including works contract).
- (iii) No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.
- (iv) Ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement and other storage, steel fabrication yard, site laboratory, water tank, etc.
- (v) For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, notwithstanding the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.
- (vi) All material shall only be brought at site as per program finalized with the Engineer-in- Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.

**1.49 SAFETY PRACTICES**

- i) **WARNING/ CAUTION BOARDS:** All temporary warning / caution boards / glow signage display such as "Construction Work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in-Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer – in – Charge. Nothing extra shall be payable on this account.

- ii) **SIGN BOARDS:** The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, Client/Owner, Engineer-in-charges, Structural Consultants, Department etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies within 15 days from issue of award letter. Nothing extra shall be payable on this account. In case of non compliance/delay in compliance in this, a penalty @ Rs. 500/- per day will be imposed which will be recovered from the immediate next R/A Bill of the Contractor.
- iii) Necessary protective and safety equipments shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and to be used at site.
- iv) No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer -in-Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

#### 1.50 QUALITY ASSURANCE

- (i) The proposed building is a prestigious project and quality of work is of paramount importance. Contractor shall have to engage well-experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like specialized flooring work, Polysulphide sealant and backer rod fixing in expansion joints, factory made door- window shutters, proper slope maintaining in toilet units, sanitary- water supply installation, textured finishing, grit plastering with aluminium channel insertions, water proofing treatment with APP Extruded Polystyrene insulation boards, will specially require engagement of skilled workers having experience particularly in execution of such items.
- (ii) The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material / work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-charge & contractor shall be bound to replace / remove such sub-standard / defective work immediately. If any material, even though approved by Engineer-In-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.
- (iii) In addition to the supervision of work by CPWD engineers, the Consultants deployed by the CPWD shall also be carrying out regular and periodic inspection of the ongoing activities in the work and deficiencies, shortcomings, inferior workmanship pointed out by them shall be communicated by CPWD engineers to the contractor. Upon receipt of instructions from Engineer in Charge these are also to be made good by necessary improvement, rectification, replacement upto his complete satisfaction. Special attention shall be paid towards line and level of internal and external plastering, exposed smooth surface of RCC members by providing fresh shuttering plates, rubberized linings to all the shuttering joints, accurate joinery work in wooden doors and windows, thinnest joints in stone/ tiling / cladding work, non-hollowness in floor and dado tiles work, protection of scratches over flooring by impounding layer of plaster of Paris, water tight pipe linings, absence of hollow vertical joints in brick masonry, proper compaction of filled up earth etc. to achieve an Institution of International standards and up keeping of quality assurance shall be of paramount importance, as such.

- (iv) The Contractor shall submit, within 07 (Seven) days after the date of award of work, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer-in-Charge. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the specifications and shall pass all the tests required as per specifications as applicable or such specifications / standards as directed by the Engineer-in- Charge. However, keeping the Quality Assurance in mind, the Contractor shall submit, on request from the Engineer-in- Charge, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer-in-Charge.
- (v) All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-charge which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer-In-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per suggested list of brand names given in the tender document / particular specifications for approval of Engineer-In-Charge. For all other items, materials and fittings of ISI Marked shall be used with the prior approval of Engineer-In-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval of Engineer-In-Charge.
- (vi) The Contractor shall procure and provide all the materials from the manufacturers /suppliers as per the list attached with the tender documents, as per the item description and particular specifications for the work. The equivalent brand for any item shall be permitted to be used in the work, only when the specified makes are not available. This is, however, subject to documentary evidence produced by the contractor for non-availability of the brand specified and also subject to independent verification by the Engineer-in-Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards equivalent make of the material shall be final and binding on the Contractor. No claim, whatsoever, of any kind shall be entertained from the Contractor on this account. Nothing extra shall be payable on this account. Also, the material shall be procured only after written approval of the Engineer-in-Charge.
- (vii) All materials whether obtained from Govt. stores or otherwise shall be got checked by the Engineer-in-Charge or his authorized supervisory staff on receipt of the same at site before use.
- (viii) The tests, as necessary, shall be conducted in the following laboratory. The samples shall be taken for carrying out all or any of the tests stipulated in the particular specifications and as directed by the Engineer-in-Charge or his authorized representative.
  - a) IIT Delhi.
  - b) IIT Guwahati.
  - c) NIT Silchar.
  - d) NIT Agartala.
  - e) NIT Manipur.
  - f) NIT Mizoram.
  - g) CRRI, Delhi.
  - h) National Council for Cement and Building Materials, Ballabh Garh.
  - i) Shree Ram Testing Laboratories Delhi
  - j) Any other NABL approved lab as approved by the NIT approving authority.
- (ix) All the registers of tests carried out at Construction Site or in outside laboratories and all material at site (MAS) registers including cement register shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-charge. All the entries in the registers will be made by the designated Engineering Staff of the contractor and same should be regularly reviewed by JE/AE/AEE/EE. Contractor shall be responsible for safe custody of all the registers.

- (x) The Contractor shall at his own risk and cost make all arrangements and shall provide all such facilities including material and labour, the Engineer-in-Charge may require for collecting, preparing, forwarding the required number of samples for testing as per the frequency of test stipulated in the contract specifications or as considered necessary by the Engineer-in-Charge, at such time and to such places, as directed by the Engineer-in-Charge. Nothing extra shall be payable for the above.
- (xi) The Contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding on the Contractor. The Contractor or his authorized representative shall remain in contact with the Engineer-in-Charge or his authorized representative associated for all such operations. No claim of payment or claim of any other kind, whatsoever, shall be entertained from the Contractor.
- (xii) All the testing charges shall be borne by the contractor in the manner indicated below:
  - (a) **All expenditure for testing to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.**
  - (b) **The contractor shall get the water tested with regard to its suitability and conforming to the relevant I.S. Code. The contractor shall obtain written approval from the Engineer-in-Charge before proceeds by using the same for execution of work. The testing charges shall be borne by the contractor.**
- (xiii) All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions before covering and their measurements in computerized measurement book duly test checked shall be deposited with Engineer in charge or his authorized representative, prior to hiding these items.
- (xiv) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should confirm to bylaws and municipal body / corporation where CPWD Specifications are not available. The contractor should engage licensed plumbers for the work and get the materials (fixtures/fittings) tested by the Municipal Body/Corporation authorities wherever required at his own cost.
- (xv) The contractor shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
- (xvi) The contractor shall have to execute guarantee bonds in respect of water proofing works and other specialized works as per Performa enclosed.
- (xvii) The Contractor shall arrange electricity at his own cost for testing of the various electrical installations as directed by Engineer-in-Charge and for the consumption by the contractor for executing the work. Also all the water required for testing various electrical installations, fire pumps, firefighting/ firefighting equipments, fire sprinklers etc. and also testing water supply, sanitary and drainage lines, water proofing of underground sump, overhead tanks, water proofing treatment etc. shall be arranged by the contractor at his own cost. Nothing extra shall be payable on this account.
- (xviii) The quality of water in the nearby areas is not fit for construction work, therefore, water treatment plant of suitable capacity shall be installed by the contractor at each site of work. He would also be required to create capacity for storage for a period not less than 3 days for construction and curing purpose, for which nothing extra shall be paid to the contractor.

### 1.51 SUBMISSION AND DOCUMENTATION

- (i) The Contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc. under various labour laws and other regulations applicable to the works, at his site office. He should also keep at site at least one set of BIS Codes and other relevant codes at site and produce the same if asked for by Engineer-In-Charge. In case of non compliance, these codes will be purchased from the Market and actual cost of purchase will be recovered from the next RA Bill of the Contractor.
- (ii) The Contractor shall make available four (04) sets of completed Building Drawings, "As Built Drawings" along with literatures, manuals, warranty certificates etc. of various installed fittings, fixtures and equipment for the completed projects. This shall be the prerequisite for payment of final bill.
- (iii) The Contractor shall make available three (03) sets of all services drawings including Electrical & HVAC work internal and external services i.e. Water Supply, Sanitary line and Drainage lines. This shall be the prerequisite for payment of final bill. These drawings shall have the following information:
  - (iv) Run off for all piping and their diameters including soil, waste pipes and vertical stacks.
  - (v) Ground and invert level of all drainage pipes together with locations of all manholes and connections, up to outfall.
  - (vi) Run off for all water supply lines with diameters location of control valves, access panels etc.
- (vii) The contractor shall make available four (04) sets of computerized Standard Measurement Books (SMBs) having measurement of all the permanent standing in a building.
- (viii) The Performance Guarantee shall not be released to the contractor until the aforesaid drawings are submitted to the Engineer-in-Charge.
- (ix) To avoid delay, contractor should submit all samples well in advance so as to give timely orders for procurement.

**1.52 Program Chart:** The Contractor shall prepare an integrated program chart within seven days of issue of award letter including civil as well as E & M activities for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the program within the stipulated period and submit the same for approval of the Engineer-In-Charge within seven days of the award of the work. These shall be submitted by the contractor through electronic media besides forwarding hard copies of the same. The integrated program chart so submitted should not have any discrepancy with the physical milestones attached in the contract agreement. The program chart should include the following: -

- (i) Descriptive note explaining sequence of various activities.
- (ii) Construction Program prepared on **PRIMAVERA** Software or any other equivalent software decided by the Engineer-in-Charge, which will indicate resources in financial terms, manpower and specialized equipment for every important stage.
- (iii) Program for procurement of materials by the contractor.
- (iv) Program for arranging and deployment of manpower both skilled and unskilled so as to achieve targeted progress.
- (v) Program of procurement of machinery/equipment having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.
- (vi) Program for achieving fortnightly micro milestones and periodic milestones.
- (ix) If at any time, it appears to the Engineer-In-Charge that the actual progress of work does not conform to the approved program referred above, the contractor shall produce a revised program showing the modifications to the approved program by additional inputs to ensure completion of the work within the stipulated time.

- (x) The submission for approval by the Engineer-In-Charge of such program or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract. This is without prejudice to the right of Engineer-In-Charge to take action against the contractor as per terms and conditions of the agreement.
- (xi) Apart from the above integrated program chart, the contractor shall be required to submit fortnightly progress report of the work in a computerized form on 1st and 16th of every month. The progress report shall contain the following, apart from whatever else may be required as specified above:
  - (a) Construction schedule of the various components of the work through a bar chart for the next fortnight (or as may be specified), showing the micro- milestone/milestones, targeted tasks (including material and labour requirement) and up to date progress. Atleast 10 digital photographs showing all the parts of construction site along with atleast 5 minutes video of executions of different items in soft copy has to be submitted in every fortnightly progress report.
  - (b) Progress chart of the various components of the work that are planned and achieved, for the fortnight as well as cumulative up to the fortnight under reckoning, with reason for deviations, if any in a tabular format.
  - (c) Plant and machinery statement, indicating those deployed in the work.
  - (d) Man-power statement indicating:
    - Individually the names of all the staff deployed on the work, along with their designations.
    - No. of skilled workers (trade wise) and total no. of unskilled workers deployed on the work and their location of deployment i.e. blocks.
  - (e) Financial statement, indicating the broad details of all the running account payment received up to date, such as gross value of work done, advances taken, recoveries effected, amount withheld, net payments details of cheque payment received, extra/ substituted/ deviation items if any, etc.

### **1.53 TEMPORARY WATER/ ELECTRICITY/ TELEPHONE CONNECTION**

- (i) Arrangement of temporary telephone connection, water and electricity required by Contractor, shall be made by him at his own cost and also necessary permissions shall be obtained by him directly from concerned authorities, under intimation to the Department. Also, all initial cost and running charges, and security deposit, if any, in this regard shall be borne by him. The Contractor shall abide by all the rules/ bye laws applicable in this regard and he shall be solely responsible for any penalty on account of violation of any of the rules/byelaws in this regard. Nothing extra shall be payable on this account.
- (ii) The Contractor shall be responsible for maintenance and watch and ward of the complete installation and water / electricity meter and shall also be responsible for any pilferage, theft, damage, penalty etc. in this regard. The Contractor shall indemnify the Department against any claim arising out of pilferage, theft, damage, penalty etc. whatsoever on this account. Security deposit for the work shall be released only after No Dues Certificates are obtained from the local Authorities from whom temporary electric/ water / telephone connection have been obtained by the Contractor. Nothing extra shall be payable on this account.

- (iii) The Department shall in no way be responsible for either any delay in getting electric and/or water and/or telephone connections for carrying out the work or not getting connections at all. No claim of delay or any other kind, whatsoever, on this account shall be entertained from the Contractor. Also contingency arrangement of stand-by water & electric supply shall be made by the Contractor for commencement and smooth progress of the work so that work does not suffer on account of power failure or disconnection or not getting connection at all. No claim of any kind whatsoever shall be entertained on this account from the Contractor. Nothing extra shall be payable on this account.

#### **1.54 CLEANLINESS OF SITE**

- i) The Contractor shall not stack building material/malba/muck on the land or road of the local municipal authority or on the land owned by the others, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer-in-Charge, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material/malba as stated above, the Contractor shall be liable to pay the stacking charges/penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.
- ii) The contractor shall take instructions from the Engineer-In-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.
- iii) The site of work shall be always kept clean due to constraints of space and to avoid any nuisance to the users of buildings in the adjacent plots. The Contractor shall take all care to prevent any water- logging at site. The waste water, slush etc. shall not be allowed to be collected at site. It may be directly pumped into the creek with prior approval of the concerned authorities. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. All the fees/charges in this regard shall be borne by the Contractor. Nothing extra shall be payable on this account.

#### **1.55 INSPECTION OF WORK**

- i) In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by Senior Officers of CPWD & the representative of the Consultants. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer-in-charge or other officers as stated above to visit the works shall have been given to the contractor, either himself be present to receive the orders and instructions or have a responsible representative duly accredited in writing, to be present for that purpose.
- ii) Inspection of the work by Consultant appointed by the CPWD.
  - a) The consultant appointed by CPWD, shall be inspecting the works including workshops and fabrication factory to ensure that the works are in general being executed according to the design, drawings and specifications laid down in the contract. His observations shall be communicated by CPWD engineering staff and compliance is to be reported to CPWD.

- b) The consultant appointed by CPWD shall certify on completion of particular building that it has been constructed according to the approved drawings design and specifications.
- iii) Senior Officers of CPWD, Dignitaries from Central Ministry / Department, Client Authorities shall be inspecting the on-going work at site at any time with or without prior intimation. The contractor shall, therefore, keep updated the following requirements and detailing.
  - a) Display Board showing detail of work, weekly progress achieved with respect to targets, reason of shortfall, status of manpower, wages being paid for different categories of workers.
  - b) Entrance and area surrounding to be kept cleaned.
  - c) Display layout plan key plan, Building drawings including plans, elevations and sections.
  - d) Upto date displays of Bar chart, CPM and PERT etc.
  - e) Keep details of quantities executed, balance quantities, deviations, possible Extra item, substituted Item etc.
  - f) Keep plastic / cloth mounted one sets of building drawings.
  - g) Set of Helmets and safety shoes for exclusive use for officers/dignitaries visiting at site.

#### **1.56 FINAL TESTING OF THE INSTALLATION**

The Contractor shall demonstrate trouble free functioning of all the Civil and E&M installations and services. The Engineer-in-Charge or his authorized representatives shall carry out final inspection of the various Civil and E & M services and installations. Any defect(s) noticed during demonstration shall be rectified by the Contractor at his own cost to the entire satisfaction of the Engineer-in-Charge. Nothing extra shall be payable on this account.

#### **1.57 SUBMISSION OF AS BUILT DRAWINGS AND OBTAINING OCCUPATION CERTIFICATE**

The contractor shall obtain occupation certificate / completion certificate from local bodies including getting the required site visits conducted by such authorities with a view to obtain the same.

#### **1.58 REFUND OF PERFORMANCE GAURENTEE**

The performance guarantee shall be refunded to the contractor soon after the completion of work and recording of the completion certificate by the competent authority.

#### **1.59 DEALING WITH INCONSISTENT RATES**

- i) The Contractors shall quote same rates for the identical items which may inadvertently appear in more than one place if different rates are quoted by the tenderers for such identical items, the same shall be rationalized by considering the lowest quoted rate for such items, for evaluation and acceptance of tender.
- ii) Wherever any reference to any Indian Standards occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued thereto or revisions thereof, if any, up to the date of receipt of tenders.
- iii) Unless otherwise specified in the schedule of quantities, the rates for all items of work shall be considered, as inclusive of pumping out or bailing out water, if required throughout the construction period for which no extra payment shall be made. This shall also include water encountered from any source such as rains, floods, sub soil water table being high and/or due to any other cause whatsoever.

- iv) All stone aggregate and stone ballast shall be of hard stone variety to be obtained from approved quarries.
- v) Coarse sand should be obtained from approved sources. The same shall be clean and sharp angular grit type. The coarse sand shall be screened before using, if required. If the sand brought to site is dirty, it must be washed in clean water to bring the sand to the required specifications. Nothing extra shall be payable on this account.
- vi) The rates for all items of work, shall unless clearly specified otherwise, include cost of all operations and all inputs of labour, material, T & P, scaffolding, wastages, watch and ward, other inputs, all incidental charges, all taxes, cess, GST, duties, levies etc. required for execution of the work.

#### **1.60 PRODUCT DELIVERY, STORAGE AND HANDLING OF CHEMICALS**

- (i) The contractor shall construct storage space for Chemicals materials to ensure that the storage conditions are as recommended by the manufactures.
- (ii) All the materials shall be procured and delivered in sealed containers with labels legible and intact.
- (iii) All the chemicals {polymers, epoxy, water proofing compound, plasticizer, Polysulphide, SBR based elastomeric, APP (Atactic Polypropylene Polymer), all exterior and interior paints, polish etc.) shall be procured in convenient packs say 20 liters/Kgs.} Capacity packing only or as approved by the Engineer-in-Charge, and not in bigger capacity containers, say 200 litre (Kgs.) drums unless otherwise specifically permitted by the Engineer-in-Charge. One sample from each lot of the chemical procured by the contractor shall be tested in a laboratory as approved by the Engineer-in-charge
- (iv) All material required for the execution of the work shall be got approved, procured and deposited with the Departmental supervisory staff. The materials shall be kept in joint custody of the contractor and the Department. The watch and ward of such material shall, however, remain to be the responsibility of the contractor and no claim, whatsoever, on this account shall be entertained. Different containers of each chemical shall be serially numbered on packing and also consumed in that order. Day-to-Day account of receipt, issue and balance shall be regulated by the Department and proper account shall be maintained at site of work in the prescribed form as per the standard practice.
- (v) All the chemicals shall be procured by the contractor directly from the manufacturer. In exceptional circumstances, the contractor may be allowed to procure the materials from the authorized dealers of the manufacturers, if specifically permitted by the Engineer-in-Charge.
- (vi) The original copies of challan/cash memos and manufacturer's test reports towards the quantity of various chemicals procured shall be made available by the contractor to the Engineer-in- Charge before making payments for work consuming the said material and a copy of the same shall be kept in record.
- (vii) The Name of manufacturers, manufacturer's product identification, manufacturer's mixing instructions, warning for handling and toxicity and date of manufacturing and shelf life shall be clearly and legibly mentioned on the labels of the each container.
- (viii) The contractor shall submit for the chemicals procured, manufacturer's and / or authorized dealer's certificate regarding supplying and verifying conformance to the material specifications, as specified.
- (ix) All filled containers shall be handled in safe manner and in a way to avoid breaking container seals.
- (x) Empty containers of the chemicals should not be removed from site till the completion of work and shall be removed only with the written approval of the Engineer-in-Charge.
- (xi) All arrangements for measuring, dosing and mixing of material / chemicals at site have to be made by the contractor.

- (xii) Contractor shall suitably advise his site Engineer and all the workers as regards safe handling of chemicals. Necessary protective and safety equipments in form of hand gloves, goggles etc. shall be provided by the contractor and be also used at site.
- (xiii) All incidental charges of any kind including cartage, storage and wastage and safe custody of material etc. shall be borne by the contractor and no claim, whatsoever, shall be entertained on this account.
- (xiv) The chemicals shall be tested in an independent laboratory as approved by the Engineer-in-charge at the frequency as specified. If required, more samples may have to be tested as per the directions of the Engineer-in-Charge. Nothing extra shall be payable on this account.  
**However all expenditure for testing to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.**

#### 1.61 De-watering

- (i) De-watering required, if any, shall be done conforming to BIS Code IS: 9759 (guide lines for de-watering during construction) and / or as per the specifications approved by the Engineer-in-Charge. Design of an appropriate and suitable dewatering system shall be the Contractor's responsibility. Such scheme shall be modified / augmented as the work proceeds based on fresh information discovered during the progress of work, at no extra cost. At all times during the construction work, efficient drainage of the site shall be carried out by the Contractor and especially during the laying of plain cement concrete, taking levels etc. The Contractor shall also ensure that there is no danger to the nearby properties and installations on account of such lowering of water table. If needed, suitable precautionary measures shall be taken by the Contractor. Also the scheme of dewatering adopted shall have adequate built in arrangement to serve as stand-bye to attend to repair of pumps etc. and disruption of power / fuel supply. Nothing extra shall be payable on this account.
- (ii) In trenches where surface water is likely to get into cut / trench during monsoons, a ring bund of puddle clay or by any other means shall be formed outside, to the required height, and maintained by the Contractor. Also, suitable steps shall be taken by the Contractor to prevent back flow of pumped water into the trench. Nothing extra shall be payable on this account.

#### 1.62 Training of the Personnel

The contractor shall arrange at no extra cost to the Department to train two persons from the department **CPWD** and two person from the client **SIB**, one each for civil and electrical works, on how to operate and carryout preventive maintenance of the systems (both civil and electrical). The contractor shall arrange this training from well qualified and experience personnel for at least seven days.

**1.63** The Architectural drawings given in the tender other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fixings involved unless and otherwise specifically mentioned. However, the work shall be executed in accordance with the drawings duly approved by the Engineer-in-Charge.

#### 1.64 Recording of Hindrance & Maintenance of Hindrance Register –

- i) Whenever any hindrance whether on part of department or on part of contractor, comes to the notice of the Assistant Engineer, he shall at once make a note of such hindrance in the register kept at site, and immediately make a report to the Executive Engineer within a week.

- ii) The following points shall be kept in mind while entering the hindrances in the Hindrance Register:
- The entry of date of start of hindrance and date of removal of hindrance shall be made on the same day as the hindrance takes place or the cause of the hindrance is removed, respectively.
  - The Executive Engineer shall work out the over lapping period, net if hindrance and of each hindrance within 15 days of removal of the cause of hindrance. For work outside headquarters, this shall be done as and when he visits the site.
  - The items of work affected due to any hindrance shall be clearly mentioned in the Hindrance Register by the Assistant Engineer, and the weightage shall be allowed on this basis.
  - Each hindrance shall be entered in the hindrance Register, which shall be authenticated by the Executive Engineer and Contractor.
  - The hindrance on part of contractor shall also to be entered in the Hindrance Register.
  - The hindrance shall be recorded carefully in the Hindrance Register after considering its effect on completion of work.
  - Review of hindrance register shall be compulsory in division office by EE and AAO at the time of payment of each Running Account Bill and final bill and certificate shall be recorded that all up to date hindrances on part of department and contractor have been recorded in the hindrance register.
  - The net delay on part of department or contractor shall be worked out after considering all the hindrances recorded in the hindrance register.
  - The **Chief Engineer** shall review the hindrance Register whenever he visits site of work.

#### **1.65 Safety, Health and Environment**

Over and above the provisions made in CPWD Safety Code (part of **General Conditions of Contract for CPWD works 2023**) the following will also be applicable:

In respect of all workmen directly or indirectly employed in the work for the performance of the contractor's part of this agreement, the contractor shall at his expense arrange for the safety provisions as per Indian Standard Safety codes shown below and shall at his own expense provide for all facilities in connection there with. In case the contractor fails to make arrangement and provide necessary facilities, he shall be liable to pay compensations prescribed under Workmen's Compensation Act 1923 as amended from time to time for each default and in addition the Engineer-in-charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the cost incurred on that behalf from the contractor, and no claims what so ever shall be entertained.

Details regarding some special provisions to be followed by contractor are as follows:

- a) **Usage of quality Personal Protection Equipments (PPEs)** through approved vendors. PPEs would include amongst others the following items:
- Safety Helmets.
  - Hearing Protection.
  - Respiratory Protection.
  - Eye Protection.
  - Protective Gloves.
  - Safety Footwear.
  - High Visibility Clothing (Jacket) with approved Logo.

All the items should be got approved before issued to the use in the work. Safety Jacket should have **CPWD** Logo as per the size approved.

The contractor shall provide all the PPE (Personnel Protective Equipment) and safety appliances required to carry out the job to all the workmen deployed by the contractor and also ensure that his workmen use those PPE and safety appliances while on the job. The contractor shall not pay any cash amount in lieu of PPE to the workers/sub-contractors and expect them to buy and use during work. If the contractor fails to ensure provision of safety appliances and its workmen do not use the PPE and safety appliances as needed for safe working, the owner may ask the contractor to stop the work and comply with safety requirements first. The contractor shall at all time maintain a minimum of 10% spare PPEs and safety appliances and properly record and show to the Employer during the inspections. Failing to do so shall invite appropriate compensations as per the provisions of under Workmen's Compensation Act 1923 as amended from time to time.

It is always the duty of the contractor to provide required PPEs for all visitors. Towards this required quantity of PPEs shall be kept always at the security post.

#### **Colour coding for helmets**

| <b>Safety Helmet Color Code<br/>(Every Helmet should<br/>have the LOGO* affixed<br/>/painted)</b> | <b>Person to use</b>                                      |
|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| White                                                                                             | CPWD staffs, All Designers, Architect, Consultants, etc.  |
| Violet                                                                                            | Main Contractors (Engineers / Supervisors)                |
| Blue                                                                                              | All Sub-contractors (Engineers / Supervisors)             |
| Red                                                                                               | Electricians (Both Contractor and Sub-contractor)         |
| Green                                                                                             | Safety Professionals (Both Contractor and Sub-contractor) |
| Orange                                                                                            | Security Guards / Traffic marshals                        |
| Yellow                                                                                            | All workmen                                               |
| White (with "VISITOR"<br>sticker)                                                                 | Visitors                                                  |

#### **Note: LOGO\***

- i) Logo shall have its outer dimension 2"X2" and shall be conspicuous.
- ii) Logo shall be either painted or affixed.
- iii) No words shall come either on Top / Bottom of Logo.

#### **b) Working at Heights**

Contractor shall ensure that work at height is properly planned for any emergencies and rescue appropriately supervised, and carried out in a manner, which is reasonably practicable safe. Contractor shall ensure that work at height is carried out only when the weather conditions do not jeopardize the health or safety of persons involved in the work. Guardrail, Toe-board, Barrier or similar collective means of protection shall be of sufficient dimensions, of sufficient strength and rigidity for the purposes for which they are being used, and otherwise suitable.

Working Platform shall be of sufficient dimensions to permit the safe passage of persons and the safe use of any plant or materials required to be used and to provide a safe working area having regard to the work being carried out there. Possess a suitable surface and, in particular, be so constructed that the surface of the working platform has no gap through which a person, material or object could fall and injure a person. A working platform and any supporting structure shall not be loaded so as to give rise to a risk of collapse or to any deformation, which could affect its safe use. Strength and stability calculations for scaffolding shall be carried out by the contractor. The dimensions form and layout of scaffolding decks shall be appropriate to the nature of the work to be performed and suitable for the loads to be carried and permit work and passage in safety.

A personal fall protection system designed for use with an anchor shall be securely attached to at least one anchor, and each anchor and the means of attachment thereto shall be suitable and of sufficient strength and stability for the purpose of supporting any foreseeable loading. Suitable and sufficient steps shall be taken to prevent any person falling or slipping from a personal fall protection system. Any other steps in the opinion of engineer-in-charge suggested will also be taken in Protection system

Only metal ladders shall be allowed. Any surface upon which a ladder rests shall be stable, firm, of sufficient strength and of suitable composition safely to support the ladder so that its rungs or steps remain horizontal, and any loading intended to be placed on it. A ladder shall be so positioned as to ensure its stability during use. A suspended ladder shall be attached in a secure manner and so that, with the exception of a flexible ladder, it cannot be displaced and swinging is prevented. No interlocking or extension ladder shall be used unless its sections are prevented from moving relative to each other while in use.

c) **Lifting appliances and gears.**

The contractor shall maintain a register for record of examinations and test details of all lifting appliances. This register should also contain a system of identification of all tools and tackles, its date of purchase, safe working load etc. Contractors can utilize the services of any competent person as defined in Factories Act, 1948 and approved by Chief Inspector of Factories with the permission of the Employer.

d) **Automatic safe load indicators**

Every lifting appliances and gears like cranes, hydrazes etc, if so constructed that the safe working load may be varied by raising or lowering of the jib or otherwise shall be attached with an automatic indicator of safe working loads approved by Bureau of Indian standards/ International certifying bodies which gives a warning to the operator and arrests further movements of the lifting parts.

e) **Qualification of operator of lifting appliances and of signaller etc.**

The contractor shall not employ any person to drive or operate a lifting machine like crane, hydra etc whether driven by mechanical power or otherwise or to give signals to work as a operator of a rigger or derricks unless he is above twenty-one years of age and possesses a valid heavy transport vehicle driving license as per Motor Vehicle Act and Rules, is absolutely competent and reliable, possesses the knowledge of the inherent risks involved in the operation of lifting appliances by undergoing a formal training at any institution of national importance, is medically examined periodically.

**1.66 Existing Services:**

Existing drains, pipes, electricity cables, overhead wires and telephone cables, sewer lines, water lines and similar services encountered in the course of the execution of the work shall be protected/ maintained against the damage by the contractor. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services. In case **temporary** shifting/supporting of such services is required to facilitate the work, the contractor at no extra cost shall do the same. The decision of the Engineer-in-Charge in this regard shall be final and binding.

- 1.67 All works pertaining to services including rerouting/diversion of services, routine testing, installation etc., completed in one or more than one process shall be subject to examination and approval to each stage thereof by the Engineer-in-charge or concerned department as would be notified by the Engineer-in-charge or his authorized representative when such stage is ready. In default of such notice the Engineer-in-Charge shall be entitled to appraise the quantity and extent thereof and the decision of Engineer-in-Charge or his authorized representative in this regard shall be final and binding.

- 1.68 For utilities which are required to be removed or **permanently shifted** to new position, in the opinion of the Engineer-in-charge, shall be removed / shifted by the contractor in consultation with the service provider agency. Payment for this shall be made as per terms and conditions of the contract. No claim for delay or otherwise due to above reasons shall be entertained on this account.
- 1.69 The contractor shall make his own arrangement for the disposal of the spoils, waste of bentonite, all dismantled material, slush and foul materials, surplus earth to such place where the same shall not cause nuisance or any environmental problems anywhere and should be acceptable to the authorities concerned. No extra claim whatsoever shall be entertained due to above. The road connected to site should be kept nuisance or environmental problem free.
- 1.70 The contractor shall make his own arrangement at his own cost for the provision of telephone facilities at the site of works or at any other place.
- 1.71 The contractor shall make his own arrangements for obtaining electric & water connection(s) if required and make necessary payment directly to department concerned. The department will however make all reasonable recommendations to the authority concerned in this regard.
- 1.72 The contractor shall bear all incidental charges for cartage, storage and safe custody of materials brought to site.
- 1.73 The work shall be carried out in accordance with the Architectural drawings, structural and services drawings, to be issued from time to time, by the Engineer-in-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural, structural drawing and services issued for the work, nomenclature of items, specifications etc. and satisfy himself that the information available there from is complete and unambiguous. The figures & the written dimensions of the drawing shall super cede the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-In-Charge for immediate decision before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information and no claim, whatsoever shall be entertained on this account.
- 1.74 GST on Works Contract as applicable shall be deducted from payment made to the contractor.
- 1.75 The contractor shall have registration with EPFO and ESIC. The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis.

## **PARTICULAR SPECIFICATION**

1. The concrete mix design/laboratory tests with or without admixture shall be got done by contractor at his own cost and will be carried out by the contractor through one of the laboratory/Test houses as mentioned in 1.50 (viii) of Special Condition.

(i) Approved Lab/Govt. Engineering Institutions as directed by the Engineer-in-charge.

The various ingredients for mix design / laboratory tests shall be sent to the test houses through the Engineer-in-Charge and the samples of such aggregate & cement shall be preserved at site by the department

2. The contractor shall submit the mix design report from any of above approved laboratory for approval of Engineer-in-Charge within 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the mix design is approved by the Engineer-in-charge. In case of white portland cement and the likely use of admixtures in concrete with OPC/white portland cement the contractor shall design and test the concrete mix by using trial mixes with white cement and/or admixtures also for which nothing extra shall be payable.
3. In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mix design report conducted at laboratory established at site shall be submitted by the contractor as per the direction of the Engineer-in-Charge.

#### **4. Water Proofing Treatment**

The contractor shall associate himself with the specialized firm, to be approved by the Engineer-in-charge in writing, for water proofing treatment for basement/lower ground floor, underground tank and on roofs. Guarantee in the prescribed proforma attached with tender document shall be given by the specialized firm, for a period of ten years from the date after the maintenance period prescribed in the contract, which shall be counter signed by the contractor as token of overall responsibility. In addition 10% (ten percent) of the cost of water proofing items shall be retained as guarantee to watch the performance of the work done. However half of this retained amount will be released after five years, if the performance of the work done is found satisfactory. If however any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of intimation. In case it is not attended to, the same will be got done by another agency at the risk and cost of the contractor. This guarantee deposit can however be released in full if a bank guarantee of equivalent amount for 10 years is produced and deposited with the department.

## **SPECIAL CONDITION FOR CEMENT**

### **1.0 CEMENT**

- 1.1 The contractor shall procure 43 grade ordinary Portland cement conforming to IS:8112 / Portland Pozzolana Cement conforming IS: 1489 (Part-I) as required in the work from the reputed manufacturers of cement such as ACC, Ultratech, Vikram, Shree Cement, Ambuja, Jaypee Cement, Century Cement J. K. Cement, Dalmia Cement, Star Cement, TAJ Cement, TOPCEM Cement, Amrit Cement, Black Tiger and MAX cement or from any other reputed cement Manufacturer having a production capacity not less than one million tonnes per annum as approved by ADG, NER. Supply of cement shall be taken in 50kg bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS codes. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so. Every fresh cement batch should be brought to site at least 30 days before they are to be used / consumed in the work.
- 1.2 The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer-in-Charge.
- 1.3 The cement godown of the capacity to store a minimum of 2000 bags requirement or lesser by Engineer-in-Charge shall be constructed by the contractor at site of work for which no extra payment shall be made. Double lock provision shall be made to the door of cement godown. The keys of one lock shall remain with Engineer-in-Charge or his authorized representative and keys of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge or his authorized representatives.
- 1.4 The cement shall be got tested by the Engineer-in-Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laboratories. The frequency and details of the tests shall be decided by the Engineer-in-Charge depending on the quantum of supply in each batch. The cost of tests shall be borne by the contractor.
- 1.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by the conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at rate so prescribed shall be made. In case of excess consumption, no adjustment shall be made. Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge.
- 1.6 Damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-charge. If he does not do so within 3 days of receipt of such notice, the Engineer-in-charge shall get it removed at the cost of the contractor.
- 1.7 The cement bags shall be stacked on proper floors consisting of two layers of dry bricks laid on well consolidated earth at a level of at least one foot above ground. The stacks shall be in rows of 2 and 10 bags high with minimum of 0.6m clear. Bags should be placed horizontally continuous in each line. Actual size / shape of godown shall be as per site requirement and nothing extra shall be paid on this account. The decision of Engineer-in-charge regarding capacity shall be final.
- 1.8 Cement register for the cement shall be maintained at site by the contractor. The account of daily receipts and issues of cement shall be maintained in the register in the proforma prescribed and signed daily by contractor or his authorized agent.

### **SPECIAL CONDITION FOR STEEL**

1. The Contractor shall procure ISI marked TMT bars confirming to IS: 1786-2008 (Indian Standard Specification for high strength deformed steel bars and wires for reinforcement) of Fe 500D grade or more as per specification / nomenclature of the item and in accordance to O.M. CSQ/SE(TAS)/Steel/2024/262-H, Dated:- 14.08.2024 with latest amendments issued time to time, for which nothing shall be paid extra on this account. The contractor shall use TMT bars as per Bar set-I.
- 1.1 The contractor shall obtain manufacturers certificate stating the process of manufacture, chemical composition and test sheet giving results of each mechanical test applicable to the material purchased and submit it to Engineer-in-charge. Each test certificate shall indicate the number of the cast to which it applies, corresponding to the number or identification mark to be found on the material.
- 1.2 The contractor shall have to obtain and furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work.
- 1.3 Samples shall also be taken and got tested by the Engineer-in-Charge or his authorized representative as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time.
- 1.4 The steel reinforcement bars shall be brought to the site in bulk supply of ten tonnes or more as decided by the Engineer-in-charge.
- 1.5 The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- 1.6 For checking nominal mass, tensile strength, bend test, re-bend test etc. specimen of sufficient length shall be cut from each size of the bar at random, and at frequency not less than that specified below:

| Size of bar             | For consignment below 100 tonnes              | For consignment over 100 tonnes               |
|-------------------------|-----------------------------------------------|-----------------------------------------------|
| Under 10 mm dia. bars   | One sample for each 25 tonnes or part thereof | One sample for each 40 tonnes or part thereof |
| 10 mm to 16 mm dia bars | One sample for each 35 tonnes or part thereof | One sample for each 45 tonnes or part thereof |
| Over 16 mm dia. bars    | One sample for each 45 tonnes or part thereof | One sample for each 60 tonnes or part thereof |

- 1.7 The contractor shall supply free of charge the steel required for testing including transportation to testing laboratories. **The cost of tests shall be borne by the contractor.**
- 1.8 The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations leading to under designing of the structure, then the work shall be summarily rejected, otherwise recovery at the rate so prescribed shall be made after ensuring structural soundness and stability. In case of excess consumption no adjustment need to be made.

- 1.9 The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge or his authorized representative.
- 1.10 The contractor shall submit original vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be used in the work. All consignment received at the work site shall be inspected by the Site staff along with the relevant documents before acceptance. The contractor shall obtain Original Vouchers and Test Certificates and furnish the same to the Engineer-in-Charge or his authorized representative in respect of all the lots of steel brought by him from approved supplier to the site of work. The original vouchers and test certificates shall be defaced by the Site staff and kept on record in the site office.
- 1.11 Reinforcement including authorized spacer bars and laps shall be measured in length of different diameters as actually (not more than as specified in the drawings) used in the work nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.
- 1.12 The standard sectional weights referred to as in Table 2.4 in para 2.3.4 in CPWD Specifications 2019 Vol. I will be considered for conversion of length of various sizes of T.M.T. bars into Standard Weight.
- 1.13 Records of actual Sectional weights shall also be kept dia-wise and lot-wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer-in-Charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as Derived Actual Weight. However, for the stipulated issue of steel reinforcement up to and including 10mm diameter bars, the actual weight of steel issued shall be modified to take into account the variation between the actual and the standard coefficients and the contractors' accounts will be debited by the cost of modified quantity.
- (a) If the Derived Weight as in above para 6.15 is less than the Standard Weight as in para 6.14 above, then the Derived Actual Weight shall be taken for payment provided, if it is within the following tolerances specified in IS1786-2008, otherwise whole lot will be rejected.

| <b>Tolerances on Nominal Mass</b> |                                   |                    |                              |
|-----------------------------------|-----------------------------------|--------------------|------------------------------|
| Nominal Size in mm                | Tolerance on Nominal mass Percent |                    |                              |
|                                   | Batch                             | Individual Sample* | Individual sample for coil** |
| (a) Upto and including 10         | ±7                                | -8                 | ±8                           |
| (b) Over 10 upto and Including 16 | ±5                                | -6                 | ±6                           |
| (c) Over 16                       | ±3                                | -4                 | ±4                           |

\* For individual sample plus tolerance is not specified.

\*\* For coils batch tolerance is not specified.

- (b) If the Derived Actual Weight is found more than the Standard Weight, then Standard Weight as worked out in para 6.14 above shall be taken for payment. In such case nothing extra shall be paid for the difference between the Derived Actual Weight and the Standard Weight.

- 1.14 Every care should be taken to avoid mixing different types of grades of bars in the same structural members as main reinforcement to satisfy relevant clause of IS: 456. In case of buildings, wherever the situation necessitates, the changeover shall be permitted only from any one level onwards. In case of foundations, all foundation elements (footings and grade beams) shall have the same kind of steel. In the case of columns, all structural elements up to the level of change, where the changeover is taking place should have the same kind of steel as those in columns.
- 1.15 The reinforcing steel brought to site of work shall be stored on brick / timber platform of 30/40-cm height, nothing extra shall be paid on this account.
- 1.16 The contractor shall provide approved type of support for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as mentioned in the drawings. Spacer blocks of required shape and size, chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement. To ensure proper cover, factory made round / rectangular type cover blocks will be used to avoid displacement of bars in any.
- 1.17 **The following procedure should be followed in case of removal of rejected/sub-standard materials from the site of work.**
  - a. Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the site order book under the signature of the AE/AEE giving approximate quantity of such materials.
  - b. As soon as the material is removed, a certificate to that effect may be recorded by the AE/AEE against the original entry, giving the date of removal a mode of removal i.e. whether by truck, carts or by manual labour. If removal is by truck, the registration number of the truck should be recorded.
  - c. When it is not possible for the AE/AEE to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site the required certificate should be recorded by the Junior Engineer and the AE/AEE should countersign the certificate recorded by the Junior Engineer.

#### **1.18 Bar Bending Schedule:**

The agency shall prepare bar bending schedule as per structural drawings and submit to Engineer-in-Charge in advance for approval. The bar bending schedule shall conform to Indian Standard IS 2502-Code of Practice for Bending and Fixing of bars for Concrete Reinforcement. Before execution of work, two copies of these bar bending schedules including revision will be submitted to Engineer-in-Charge for approval. Keeping in view the quantum of the work, the BBS shall preferably be prepared with software and one person acquainted with preparing BBS with software shall be deputed at site to speed up the work.

- 1.19 The MAS Register should include following details at the time of supply / issue of the plants and other materials:
  - (i) The details of bills/challans in respect of supply of the plants and other materials.
  - (ii) The details about transportation of the materials / plants at site like Vehicle / Lorry Registration No.

- (iii) Specific location where materials / plants displayed / delivered / issued. (iv) Proforma for MAS Register is given:

|    |                                                                                                                  |                           |                   |               |                                                               |                 |                  |                                                      |                                                                     |         |
|----|------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------|---------------|---------------------------------------------------------------|-----------------|------------------|------------------------------------------------------|---------------------------------------------------------------------|---------|
| 1. | 2.                                                                                                               | Section / Sub-Division :  |                   |               |                                                               |                 |                  |                                                      |                                                                     |         |
|    | 3.                                                                                                               | Name of Work :            |                   |               |                                                               |                 |                  |                                                      |                                                                     |         |
|    | 4.                                                                                                               | Name of Article / Items : |                   |               |                                                               |                 |                  |                                                      |                                                                     |         |
|    | 5.                                                                                                               | Estimated Requirements :  |                   |               |                                                               |                 |                  |                                                      |                                                                     |         |
|    | 6.                                                                                                               | Issue Rate :              |                   |               |                                                               |                 |                  |                                                      |                                                                     |         |
|    | Date of Receipt (Details of Challan / Bills, Specific location where Plants and Materials received / Vehicle No. | Received from / Issue to  | Quantity Received | Date of Issue | Specific location where Plants & Materials Displayed / Issued | Quantity issued | Balance Quantity | Signature of Authorized representative of contractor | Signature of Authorized representative of Engineer-In-Charge/ AE/EE | Remarks |
|    |                                                                                                                  |                           |                   |               |                                                               |                 |                  |                                                      |                                                                     |         |
|    |                                                                                                                  |                           |                   |               |                                                               |                 |                  |                                                      |                                                                     |         |

- 2 Special condition for structural steel (Tee, Angle, Channel, Structural Tubes and plates & R.S. Joist)**
- 2.1 The contractor shall procure Structural steel (Tee, Angle, Channel, Structural Tubes and plates & R.S. joist) from primary producers as mentioned in the preferred make list. In case of non-availability of structural steel from primary producers the NIT approving authority may permit use of structural steel procured from steel producers having valid BIS license confirming to IS - 2062-2006.
- 2.2 Samples shall be taken and got tested by the Engineer-in-charge or his authorized representative confirming to relevant BIS code. In case the test results indicate that the structural steel arranged by the contractor does not conform to the specification, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week's time or written orders from the Engineer-in-charge to do so.
- 2.3 The structural steel shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account.
- 2.4 The contractor shall supply free of charge the structural steel sample required for testing including its transportation to testing laboratories. The cost of test shall be borne by the contractor.
- 2.5 The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge or his authorized representative.
- 2.6 If the actual weight of structural steel to be used in the work differs from standard weight, the following procedure shall be followed for arriving at the quantity for payment.
- If the actual weight is more than standard weight, then only standard weight shall be considered for payment.
  - If the actual weight is less than standard weight but within the permissible variation, only actual weight shall be considered for payment.

**CONTRACT FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF  
WATER PROOFING WORKS**

(BASEMENT/LOWER GROUND FLOOR/UNDER GROUND TANK/ROOF)

The Agreement made this \_\_\_\_\_ day of \_\_\_\_\_ Two thousand and \_\_\_\_\_ between \_\_\_\_\_ son of \_\_\_\_\_ (hereinafter called the Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part).

WHEREAS THIS agreement is supplementary to a contract (hereinafter called the contract) dated \_\_\_\_\_ and made between the GUARANTOR OF THE ONE part and the Government of the other part, whereby the contractor, inter alia, undertook to render the buildings and structures in the contract recited completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for ten years from the date after the maintenance period prescribed in the contract.

NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date after the maintenance period prescribed in the contract.

Provided that the Guarantor will not be responsible for the leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

- (a) Misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof.
- (b) Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts.
- (c) The decision of the Engineer-in –charge with regard to cause of leakage/seepage shall be final.

During this period of guarantee the guarantor shall make good all defects and in case of any defect being found, render the building water proof to the satisfaction of the Engineer-in–charge at his cost and shall commence the work for the rectification within seven days from the date of issue of the notice from the Engineer-in–charge calling upon him to rectify the defects failing which the work shall be done by the department by some other agency contractor at the GUARANTOR's risk and cost. The decision of the Engineer-in–charge as to the cost payable by the Guarantor shall be final and binding.

That if guarantor fails to make good all defects or commits breach there under then the Guarantor will indemnify the principal and his successors against all loss, damage, cost expense otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the Government the decision of the Engineer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obliger \_\_\_\_\_ and by \_\_\_\_\_ and for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written SIGNED, SEALED AND delivered by OBLIGOR in the presence of :

1. ....
2. ....

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY \_\_\_\_\_  
\_\_\_\_\_ in the presence of:

1. ....
2. ....

**TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF ALUMINIUM DOORS, WINDOWS VENTILATORS, STRUCTURAL GLAZING & PVDF COATED ALUMINIUM COMPOSITE PANEL WORKS**

The agreement made this \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and \_\_\_\_\_ between \_\_\_\_\_ son of \_\_\_\_\_ (hereinafter called the GURANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part.)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated \_\_\_\_\_ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor inter alia, undertook to render the work in the said contract recited structurally stable, leak proof and sound material, workmanship, anodizing, colouring, sealing.

AND WHEREAS THE GURANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable, leak proof and guaranteed against faulty material and workmanship, defective anodizing, colouring, sealing and finishing for two years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable, leak proof and guaranteed against faulty material and workmanship, defective anodizing, colouring, sealing and finishing for two years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

The decision of the Engineer-in-charge with regard to nature and cause of defects shall be final.

During this period of guarantee, the guarantor shall make good all defects to the satisfaction of the Engineer-in-charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's risk and cost. The decision of the Engineer-in-Charge as to the cost, payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all the defects or commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

IN WITNESS WHEREOF these presents, have been executed by the obligator \_\_\_\_\_ and \_\_\_\_\_ by \_\_\_\_\_ for and on behalf of the PRESIDENT OF INDIA on the \_\_\_\_\_ day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of:

1. \_\_\_\_\_
2. \_\_\_\_\_

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY \_\_\_\_\_ in the presence of:

1. \_\_\_\_\_
2. \_\_\_\_\_

**LIST OF MACHINERY, TOOLS & PLANTS TO BE DEPLOYED BY THE CONTRACTOR AT  
SITE AS & WHEN REQUIRED**

| Sl. No. | Name of Equipment                                                             | Numbers                                                                                                                               |
|---------|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
|         | <b>Equipment for Concrete work</b>                                            |                                                                                                                                       |
| 1       | Batch Mix Plant (minimum capacity 30 cum per hour)                            | 1 No.                                                                                                                                 |
| 2       | Concrete pump along with sufficient length of pipes and required accessories. | 1 No.                                                                                                                                 |
| 3       | Transit mixer                                                                 | 2 Nos.                                                                                                                                |
| 4       | Concrete mixer (diesel)                                                       | 1 No.                                                                                                                                 |
| 5       | Concrete mixer (electrical)                                                   | 1 No.                                                                                                                                 |
| 6       | Needle vibrator (electrical)                                                  | 3 Nos.                                                                                                                                |
| 7       | Needle vibrator (petrol)                                                      | 3 Nos.                                                                                                                                |
|         | <b>Equipment for Building work</b>                                            |                                                                                                                                       |
| 1       | Bar bending Machine                                                           | 1 Nos.                                                                                                                                |
| 2       | Bar cutting machine                                                           | 2 Nos.                                                                                                                                |
| 3       | Drilling machine                                                              | 1 No.                                                                                                                                 |
| 4       | Welding machine                                                               | 1 No.                                                                                                                                 |
| 5       | Cube testing machines                                                         | 1 No.                                                                                                                                 |
| 6       | Steel shuttering                                                              | As per Additional Conditions Srl. No. 23                                                                                              |
| 7       | Steel double scaffolding                                                      | Minimum quantity of steel double scaffolding should be such that it should cover all-round the building upto terrace level at a time. |
| 8       | Moisture meter                                                                | 1 No.                                                                                                                                 |
| 9       | Vernier Caliper                                                               | 2 Nos (01 No. digital & 01 No. manual).                                                                                               |
| 10      | Screw gauge                                                                   | 2 Nos (01 No. digital & 01 No. manual).                                                                                               |
| 11      | Digital Weighing machine with 1 gm least count of capacity 10 kg.             | 1 No.                                                                                                                                 |
| 12      | Digital Weighing machine with 1 gm least count of capacity 200 kg.            | 1 No.                                                                                                                                 |
| 13      | List of equipment to be provided in the lab                                   | As per mentioned in Clause-10A of Schedule - "F"                                                                                      |
|         | <b>Equipment for transportation</b>                                           |                                                                                                                                       |
| 1       | Tippers                                                                       | 2 Nos.                                                                                                                                |
| 2       | Trucks                                                                        | 2 Nos.                                                                                                                                |
|         | <b>Pneumatic equipment</b>                                                    |                                                                                                                                       |
| 1       | Air compressors (diesel)                                                      | Nil                                                                                                                                   |
|         | <b>Dewatering equipment</b>                                                   |                                                                                                                                       |
| 1       | Pump (diesel)                                                                 | 1 No.                                                                                                                                 |
| 2       | Pump (electric) (Desirable)                                                   | Nil                                                                                                                                   |
|         | <b>Power equipment</b>                                                        |                                                                                                                                       |
| 1       | Diesel generator minimum 25 KV or more as required.                           | 1 No.                                                                                                                                 |

### **LIST OF PREFERRED MAKES OF MATERIALS FOR CIVIL WORK**

The materials of first/standard quality from the following preferred makes are to be used. In case it is established that the brands specified below are not available in the market, contractor shall submit alternative proposal for the approval of Engineer-in-Charge.

The contractor shall provide the materials as per the Make or Brand indicated below. The contractor shall obtain the approval of Engineer-in-Charge for the alternative brands, before the actual execution of items.

#### **A. General Materials.**

| Sl. No. | Materials                                                   | Brand/Manufacturer Name                                                                                                                                                                     |
|---------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Cement (OPC/PPC)                                            | ACC, Ultratech, Vikram, Shree Cement, Ambuja, Jaypee Cement, Century Cement J. K. Cement, Dalmia Cement, Star Cement, TAJ Cement, TOPCEM Cement, Amrit Cement, Black Tiger, and MAX Cement. |
| 2       | Reinforcement Steel                                         | SAIL, Tata Steel Ltd, RINL, Jindal Panther and JSW Steel Ltd. (Neo)                                                                                                                         |
| 3       | Galvanized plain/ Corrugated Sheets                         | Tata, Sail, Jindal, JSW.                                                                                                                                                                    |
| 4       | Synthetic Enamel Paint/ Emulsion / steel/ wood primer       | Asian Paints, Nerolac, ICI-Dulux paints.                                                                                                                                                    |
| 5       | Acrylic washable Distemper                                  | Asian Paints, Nerolac, ICI-Dulux paints.                                                                                                                                                    |
| 6       | Water proofing cement paint, Primer                         | Asian Paints, Nerolac, ICI-Dulux paints.                                                                                                                                                    |
| 7       | Premium Acrylic Smooth Exterior Paint with silicon additive | Asian Paints, Nerolac, ICI-Dulux paints.                                                                                                                                                    |
| 8       | SS doors handles, locks/ Mortice Latch and fittings         | Godrej, Harrison, Doorset, Dorma, Ozone, Geze.                                                                                                                                              |
| 9       | White Cement                                                | J.K. white, Birla-white.                                                                                                                                                                    |
| 10      | Aluminum sections                                           | Bhagwati Sai, Halco, Hindalco, Jindal, Indal, Indian Alumimum Co.                                                                                                                           |
| 11      | PVC Door frame and Shutters                                 | Rajshree, Duraplast, JAYNA.                                                                                                                                                                 |
| 14      | Water proofing compound                                     | CICO, FOSROC, Pidilite (ROFF/Dr.fixit), BASF, Ardex Endura (Bal Endura).                                                                                                                    |
| 15      | Structural Steel Sections                                   | SAIL, TATA, RINL, Jindal Steel & Power Ltd, APL APOLLO, JSW Steel Ltd.                                                                                                                      |
| 16      | Steel Window & Pressed Steel Frames                         | Multiwin, Ajanta, United Engg.Works (Ramnagar), M/s SKS Steel Industries (Peeragarhi).                                                                                                      |
| 17      | Flush Door Shutters (IS:2202)                               | Greenply, Century, JAYNA, DURO BRAND, Archid Ply.                                                                                                                                           |
| 18      | Dash / Anchoring Fasteners                                  | HILTI, Fischer, BOSCH, Wurth.                                                                                                                                                               |
| 19      | Marine Plywood                                              | Archid Ply Industries, Century, Green Ply.                                                                                                                                                  |
| 20      | Fire Retardant Plywood                                      | Archid Ply Industries, Century, Green Ply.                                                                                                                                                  |
| 21      | Plywood                                                     | Archid Ply Industries, Century, Green Ply.                                                                                                                                                  |
| 22      | Block Board                                                 | Archid Ply Industries, Century, Green Ply.                                                                                                                                                  |
| 23      | Nuts /Bolts & Screws                                        | Atul Fasteners Ltd, ITW BUILDDEX and BUSTED, Corroshield, Pandey's Fasteners.                                                                                                               |

| Sl. No.                               | Materials                                           | Brand/Manufacturer Name                                                                                     |
|---------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 24                                    | Admixtures                                          | Fosroc, SIKA, BASF, Ardex Endura (Bal Endura), Pidilite Industries (ROFF/Dr.fixit).                         |
| 25                                    | Vitrified/Ceramic/glazed Tiles                      | Kajaria, Johnson, AGL, NITCO, RAK, CERA, Varmora & Somany.                                                  |
| 26                                    | Grout, Tile adhesive, Monomer Grout                 | Latecrete, BASF, Ardex Endura, Ferrous Crete, Sika, CICO, Frecrete, Pidilite (ROFF/Dr.fixit), Asian Paints. |
| 27                                    | Hydraulic door / floor spring                       | Godrej, Dorma, Everite, Doorset, Ozone, Geze, Hafele.                                                       |
| 28                                    | EPDM silicon Gasket                                 | Hanu, Annand, Amee rubber, Osaka, Eltech, Avigiri.                                                          |
| 29                                    | Cement based Wall putty                             | Birla, JK, Asian paints.                                                                                    |
| 30                                    | Clear glass/clear float glass/toughened glass       | Saint Gobain, AIS, Modiguard.                                                                               |
| 31                                    | Gypsum plaster                                      | Ferrow-crete (Ecrro-500), Gyproc (Elite -90), Ultratech, J.K.                                               |
| 32                                    | Clear float glass                                   | Saint Gobain, Ashahi India, Modi Float                                                                      |
| 33                                    | Aluminum fittings                                   | Nulite, Ebco, Sargent, Everite, Godrej, Hardima, classic, Alka, Jindal, Pulse.                              |
| 34                                    | Steel Fire rated doors                              | Shakti-Metdoor, Navair, Adhunik technology, Saint Gobain, signom fire protection, Promat international.     |
| 35                                    | Fire rated door fittings                            | Dorma, Geze, Shakti Hormann.                                                                                |
| 36                                    | AAC Block                                           | Val-Kon-Crete, Shreecement, Biltech, HIL, GREEN AAC BLOCK, Ultratech.                                       |
| 37                                    | AAC block Adhesive                                  | Ferrous Crete, Ultra Tech, GREEN AAC BLOCK, Saint Gobain                                                    |
| 38                                    | Crystalline water proofing                          | Pentron, Kryton, Asian Paints.                                                                              |
| 39                                    | Polysulphide Sealent                                | Fosroc, Pidilite Industries (ROFF/Dr.fixit), Sika BASF, Asian Paints.                                       |
| 40                                    | Seismic Expansion Joints                            | Hercules Structures System, Sanfiled                                                                        |
| 41                                    | Calcium Silicate false ceiling tiles                | Aerolite, Armstrong, Hilux.                                                                                 |
| 42                                    | Metal false ceiling                                 | Armstrong, Saint Gobain, Hunter Douglas, Diamond ceiling.                                                   |
| 43                                    | Gypsum Board false ceiling                          | Saint Gobain, Lafarge, Boral Board, Armstrong.                                                              |
| 44                                    | Polycarbonate Sheet                                 | Gallina India, Polygal India, Plastron India, Danpal, DPI, LEXAN, GE Plastic, Day lighting.                 |
| 45                                    | Ceramic steel Green chalkboard                      | Vision Ad Boards, Excel Boards, Writemark Boards.                                                           |
| <b>Sanitary fixtures and Faucets.</b> |                                                     |                                                                                                             |
| 1                                     | Vitreous China Sanitary Ware fittings & accessories | Parryware, Hindware, CERA, Jaquar, Kohler, Roca.                                                            |
| 2                                     | CP Fittings (IS 8931)                               | Jaquar, Kohler, Marc (Premium quality), Hindware, CERA, PRAYAG, with water saving features.                 |
| 3                                     | Plastic seat cover of WC                            | Original WC brand, Hindware, CERA, PRAYAG.                                                                  |

| Sl. No. | Materials                                   | Brand/Manufacturer Name                                |
|---------|---------------------------------------------|--------------------------------------------------------|
| 4       | PVC Flushing Cistern (IS:7231)              | Hindware (Slim line), Roca, Kohler, PRAYAG, Parryware. |
| 5       | Infrared Sensor operated Faucets            | Roca, Kohler, PRAYAG.                                  |
| 6       | Stainless Steel Sink (IS:13983)             | Nirali, JAYNA, CERA, PRAYAG, Neelkanth.                |
| 7       | Mirror                                      | Atul, Jolly, Modiguard, PRAYAG, Saint Gobain.          |
| 8       | PVC tanks                                   | Sintex, Polycone, Patton, PRAYAG & Rotomec.            |
| 9       | CI Manholes Frames & Covers and CI gratings | NECO, RIF, SKF, BIC                                    |
| 10      | Ball valves/Water supply valves (IS:1703)   | ZOLOTO, Leader, PRAYAG, PRIMA                          |

| <b><u>Pipes and Fittings</u></b>                                                    |                                                                        |                                                                       |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 1                                                                                   | Centrifugally Cast (Spun) Iron soil, waste and vent pipes and fittings | NECO, HEPCO., BIC, RIF                                                |
| 2                                                                                   | PVC, UPVC Soil, Waste, rain water and Vent pipes and fittings          | Supreme, Prince, Finolex, Ashirvad, TRUFLO, PRAYAG, Skipper.          |
| 3                                                                                   | G.I. Pipes                                                             | TATA, Jindal Hissar, APL-APOLLO, Prakash-Surya, Bhushan Power & Steel |
| 4                                                                                   | G.I. Fittings                                                          | Unik, Zoloto                                                          |
| 5                                                                                   | C.I. Class LA Pipes                                                    | Electro Steel, Kesoram, Jindal, Kartar                                |
| 6                                                                                   | Stone ware pipes                                                       | Bhaskar, Anand, Perfect, TRUFLO, PRAYAG, Parry.                       |
| 7                                                                                   | R.C.C. Pipes                                                           | ISI marked of approved Quality                                        |
| 8                                                                                   | CPVC Pipes and Fittings                                                | Supreme, Astral, Ashirvad, TRUFLO, PRAYAG, Skipper.                   |
| 9                                                                                   | CI Sluice valve                                                        | Kirloskar, PRAYAG, Zoloto                                             |
| 10                                                                                  | MS Pipe                                                                | TATA, Jindal Hissar, APL APOLLO.                                      |
| 11                                                                                  | SS sheet for pipes                                                     | Jindal, Rampart, POSCO, J-Press                                       |
| 12                                                                                  | PTMT Bath fittings                                                     | PARAYAG, PRIMA, PEARL,                                                |
| 13                                                                                  | Gun metal Gate Valve                                                   | LEADER, SANT, PRIMA                                                   |
| 14                                                                                  | PPR Pipe                                                               | SFMC, Fusion                                                          |
| All other items shall be of ISI marked/as per approved sample kept at site of work. |                                                                        |                                                                       |

**SCHEDULE OF QUANTITIES****(Civil Works)**

**Name of work : Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur .**

| <i>Sl. No.</i> | <i>Description</i>                                                                                                                                                                                                                                                                                                                                                                                                                          | <i>Quantity</i> | <i>Unit</i> | <i>Rate</i> | <i>Amount</i> |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|-------------|---------------|
| 1              | Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.                                                                                                                                               |                 |             |             |               |
| 1.1            | All kinds of soil                                                                                                                                                                                                                                                                                                                                                                                                                           | 906.00          | CUM         | 149.00      | ₹ 1,34,994.00 |
| 2              | Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth, lead up to 50 m and lift up to 1.5m, as directed by Engineer-in-Charge.                                                                                                                                             |                 |             |             |               |
| 2.1            | Ordinary rock                                                                                                                                                                                                                                                                                                                                                                                                                               | 249.00          | CUM         | 412.95      | ₹ 1,02,825.00 |
| 3              | Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.                                                                               |                 |             |             |               |
| 3.1            | All kinds of soil.                                                                                                                                                                                                                                                                                                                                                                                                                          | 68.00           | CUM         | 218.60      | ₹ 14,865.00   |
| 4              | Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m : |                 |             |             |               |
| 4.1            | All kinds of soil                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |             |             |               |
| 4.1.1          | Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia                                                                                                                                                                                                                                                                                                                                                                        | 200.00          | Metre       | 293.40      | ₹ 58,680.00   |
| 5              | Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.                                                                                                                                                                                                   | 730.00          | CUM         | 161.60      | ₹ 1,17,968.00 |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                   |          |     |         |                |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|---------|----------------|
| 6    | Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.                                                                                                                                                                                                                                                                                         | 43.00    | CUM | 2161.20 | ₹ 92,932.00    |
| 7    | Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :                                                                                                                                                                                                                                                                |          |     |         |                |
| 7.1  | 1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)                                                                                                                                                                                                                                                             | 88.00    | CUM | 6050.65 | ₹ 5,32,457.00  |
| 8    | Providing and laying damp-proof course 50mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (Zone III) derived from natural sources : 4 graded stone aggregate 20mm nominal size derived from natural sources).                                                                                                                                                                                        | 55.00    | SQM | 452.25  | ₹ 24,874.00    |
| 9    | Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth. | 87.00    | SQM | 681.65  | ₹ 59,304.00    |
| 10   | Centering and shuttering including strutting, propping etc. and removal of form for                                                                                                                                                                                                                                                                                                                               |          |     |         |                |
| 10.1 | Foundations, footings, bases of columns, etc. for mass concrete                                                                                                                                                                                                                                                                                                                                                   | 162.00   | SQM | 332.10  | ₹ 53,800.00    |
| 10.2 | Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.                                                                                                                                                                                                                                                                                                                    | 18.00    | SQM | 702.00  | ₹ 12,636.00    |
| 10.3 | Suspended floors, roofs, landings, balconies and access platform                                                                                                                                                                                                                                                                                                                                                  | 494.00   | SQM | 766.55  | ₹ 3,78,676.00  |
| 10.4 | Lintels, beams, plinth beams, girders, bressumers and cantilevers                                                                                                                                                                                                                                                                                                                                                 | 513.00   | SQM | 608.35  | ₹ 3,12,084.00  |
| 10.5 | Columns, Pillars, Piers, Abutments, Posts and Struts                                                                                                                                                                                                                                                                                                                                                              | 473.00   | SQM | 804.25  | ₹ 3,80,410.00  |
| 10.6 | Stairs, (excluding landings) except spiral-staircases                                                                                                                                                                                                                                                                                                                                                             | 53.00    | SQM | 657.70  | ₹ 34,858.00    |
| 11   | Steel reinforcement for R.C.C. Work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.                                                                                                                                                                                                                                                                    |          |     |         |                |
| 11.1 | Thermo-Mechanically Treated bars of grade Fe-500D or more.                                                                                                                                                                                                                                                                                                                                                        | 31735.00 | KG  | 89.65   | ₹ 28,45,043.00 |
| 12   | Steel reinforcement for R.C.C. Work including straightening, cutting, bending, placing in position and binding all complete above plinth level.                                                                                                                                                                                                                                                                   |          |     |         |                |
| 12.1 | Thermo-Mechanically Treated bars of grade Fe-500D or more.                                                                                                                                                                                                                                                                                                                                                        | 23200.00 | KG  | 89.65   | ₹ 20,79,880.00 |

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| 13     | Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. |        |     |         |                |
|        | Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement                                                                                                                                                                                                                                                                                                                                                                  |        |     |         |                |
| 13.1   | All works upto plinth level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |     |         |                |
| 13.1.1 | Concrete of M25 grade with minimum cement content of 350 kg /cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 134.00 | CUM | 8683.80 | ₹ 11,63,629.00 |
| 13.2   | All works above plinth level upto floor V level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |     |         |                |
| 13.2.1 | Concrete of M25 grade with minimum cement content of 330 kg /cum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 145.00 | CUM | 8964.75 | ₹ 12,99,889.00 |
| 14     | Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |     |         |                |
| 14.1   | Cement mortar 1:6 (1 cement : 6 coarse sand)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 23.00  | CUM | 6658.25 | ₹ 1,53,140.00  |
| 15     | Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |     |         |                |
| 15.1   | Cement mortar 1:6 (1 cement : 6 coarse sand)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 93.00  | CUM | 8288.40 | ₹ 7,70,821.00  |
| 16     | Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |     |         |                |
| 16.1   | Cement mortar 1:4 (1 cement :4 coarse sand)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 203.00 | SQM | 1018.05 | ₹ 2,06,664.00  |

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| 17     | Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels. |        |       |         |               |
| 17.1   | Granite stone slab all colour and texture except black, Cherry/Ruby red                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |       |         |               |
| 17.1.1 | Area of slab over 0.50 sqm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8.00   | SQM   | 3301.50 | ₹ 26,412.00   |
| 18     | Providing edge moulding to 18 mm thick marble stone counters, Vanities etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.                                                                                                                                                                                                                                                                                                                     |        |       |         |               |
| 18.1   | Granite work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 12.00  | Metre | 418.85  | ₹ 5,026.00    |
| 19     | Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.      | 141.00 | SQM   | 1063.45 | ₹ 1,49,946.00 |
| 20     | Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:                                                                                                                                                                                                                   |        |       |         |               |
| 20.1   | 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws.                                                                                                                                                                                                                                                                                                                                                                                                                                        | 61.00  | SQM   | 2015.75 | ₹ 1,22,961.00 |
| 21     | Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.                                                                                                                                                                                                                                                                                                                                  |        |       |         |               |
| 21.1   | Fixed to openings /wooden frames with rawl plugs screws etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 918.00 | KG    | 197.70  | ₹ 1,81,489.00 |

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| 22   | Providing and fixing aluminium sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc. complete :                                                                                                                                                                                                                            |        |      |         |             |
| 22.1 | 300x16 mm                                                                                                                                                                                                                                                                                                                                                                                                                                         | 29.00  | Each | 260.30  | ₹ 7,549.00  |
| 22.2 | 250x16 mm                                                                                                                                                                                                                                                                                                                                                                                                                                         | 7.00   | Each | 234.90  | ₹ 1,644.00  |
| 23   | Providing and fixing aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade with necessary screws etc. complete :                                                                                                                                                                                                                                 |        |      |         |             |
| 23.1 | 250x10 mm                                                                                                                                                                                                                                                                                                                                                                                                                                         | 38.00  | Each | 117.65  | ₹ 4,471.00  |
| 24   | Providing and fixing aluminium handles ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete :                                                                                                                                                                                                                                     |        |      |         |             |
| 24.1 | 125 mm                                                                                                                                                                                                                                                                                                                                                                                                                                            | 72.00  | Each | 60.05   | ₹ 4,324.00  |
| 25   | Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.                                                                                                                                                                                                                |        |      |         |             |
| 25.1 | Twin rubber stopper                                                                                                                                                                                                                                                                                                                                                                                                                               | 28.00  | Each | 62.25   | ₹ 1,743.00  |
| 26   | Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.                                                                                                                                                                                                            |        |      |         |             |
| 26.1 | Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).                                                                                                                                                                                                                                                                         | 527.00 | KG   | 114.65  | ₹ 60,421.00 |
| 27   | Providing and fixing M.S. fan clamp type I or II of 16 mm dia M.S. bar, bent to shape with hooked ends in R.C.C. slabs or beams during laying, including painting the exposed portion of loop, all as per standard design complete.                                                                                                                                                                                                               | 21.00  | Each | 185.95  | ₹ 3,905.00  |
| 28   | Providing and laying rectified Glazed Ceramic floor tiles of size 300x300mm or more (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4(1 Cement: 4 Coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete. | 23.00  | sqm  | 1142.80 | ₹ 26,284.00 |

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| 29     | Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete.                                                                                                             |        |       |         |               |
| 29.1   | Size of Tile 600x600 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 344.00 | SQM   | 1416.65 | ₹ 4,87,328.00 |
| 30     | Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete.                                                                                        |        |       |         |               |
| 30.1   | Size of Tile 600x600 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 35.00  | SQM   | 1466.50 | ₹ 51,328.00   |
| 31     | Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. All complete as specified and as directed by the Engineer-in-Charge. |        |       |         |               |
| 31.1   | Polished Granite stone slab of all colour and texture except Black, Cherry/Ruby Red                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 69.00  | SQM   | 2677.90 | ₹ 1,84,775.00 |
| 32     | Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.                                                                                                                                                                                                                                                                                                    |        |       |         |               |
| 32.1   | 110 mm diameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 113.00 | Metre | 319.75  | ₹ 36,132.00   |
| 33     | Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.                                                                                                                                                                                                                                                                         |        |       |         |               |
| 33.1   | Coupler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |       |         |               |
| 33.1.1 | 110 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 20.00  | Each  | 119.95  | ₹ 2,399.00    |
| 33.2   | Bend 87.5°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |       |         |               |
| 33.2.1 | 110 mm bend                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 40.00  | Each  | 132.00  | ₹ 5,280.00    |

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| 34   | Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. Screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement: 4 coarse sand) and making good the wall etc. complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |      |        |             |
| 34.1 | 110 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 40.00 | Each | 310.85 | ₹ 12,434.00 |
| 35   | Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10.00 | Each | 47.90  | ₹ 479.00    |
| 36   | Providing and Fixing 15 mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet, spaced 1200 mm centre to centre, and cross "T" of size 24x28 mm made out of 0.33 mm (Minimum) sheet, 1200 mm long spaced between main 'T' at 600 mm centre to centre to form a grid of 1200x600 mm and secondary cross 'T' of length 600 mm and size 24 x 28 mm made of 0.33 mm thick (Minimum) sheet to be inter locked at middle of the 1200x 600 mm panel to form grid of size 600x600 mm, resting on periphery walls /partitions on a Perimeter wall angle pre-coated steel of size (24x24x3000 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at 450 mm centre to centre with 25 mm long dry wall screws @ 230 mm interval and laying 15 mm thick densified edges calcium silicate ceiling tiles of approved texture in the grid, including, cutting/ making opening "for services like diffusers, grills, light fittings, fixtures, smoke detectors etc., wherever required. |       |      |        |             |
|      | Main "T" runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm G.I. adjustable rods with galvanised steel level clips of size 85 x 30 x 0.8 mm, spaced at 1200 mm centre to centre along main 'T', bottom exposed with 24 mm of all T sections shall be pre-painted with polyester baked paint, for all heights, as per specifications, drawings and as directed by Engineer-in-Charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |      |        |             |

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|      | Note :- Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/ opening (cut outs) having area less than 0.30 sqm. The calcium silicate ceiling tile shall have NRC value of 0.50 (Minimum), light reflection > 85%, non- combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity <0.043 w/mK. | 127.00  | SQM | 1718.70 | ₹ 2,18,275.00 |
| 37   | 12 mm cement plaster of mix :Rates for external plastic are for height upto 10m from ground level in less otherwise stated.                                                                                                                                                                                                                                                                                   |         |     |         |               |
| 37.1 | 1:6 (1 cement: 6 fine sand)                                                                                                                                                                                                                                                                                                                                                                                   | 685.00  | SQM | 282.00  | ₹ 1,93,170.00 |
| 38   | 15 mm cement plaster on rough side of single or half brick wall of mix:                                                                                                                                                                                                                                                                                                                                       |         |     |         |               |
| 38.1 | 1:6 (1 cement: 6 coarse sand)                                                                                                                                                                                                                                                                                                                                                                                 | 867.00  | SQM | 339.10  | ₹ 2,94,000.00 |
| 39   | 6 mm cement plaster of mix :                                                                                                                                                                                                                                                                                                                                                                                  |         |     |         |               |
| 39.1 | 1:3 (1 cement : 3 fine sand)                                                                                                                                                                                                                                                                                                                                                                                  | 841.00  | SQM | 253.05  | ₹ 2,12,815.00 |
| 40   | Distempering with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gms/litre, of approved manufacturer, of required shade and colour complete, as per manufacturer's specification.                                                                                                                                                                                                |         |     |         |               |
| 40.1 | New work (two or more coats) over and including water thinnable priming coat with cement primer having VOC content less than 50 gram/litre.                                                                                                                                                                                                                                                                   | 1623.00 | SQM | 154.60  | ₹ 2,50,916.00 |
| 41   | Finishing walls with Acrylic Smooth exterior paint of required shade :                                                                                                                                                                                                                                                                                                                                        |         |     |         |               |
| 41.1 | New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm).                                                                                                                                                                                                                                                                            | 731.00  |     | 147.45  | ₹ 1,07,786.00 |
| 42   | Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :                                                                                                                                                                                                                                                                                                                |         |     |         |               |
| 42.1 | Two or more coats on new work                                                                                                                                                                                                                                                                                                                                                                                 | 127.00  | SQM | 131.45  | ₹ 16,694.00   |
| 43   | Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.                                                                                                                                                                                                               | 2364.00 | SQM | 123.85  | ₹ 2,92,781.00 |
| 44   | Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth with lead upto 50 metres.                                                                      | 525.00  | SQM | 180.50  | ₹ 94,763.00   |

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| 45     | Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in charge. (The panel shuttering work shall be paid for separately). (Note:- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately). | 105.00 | cum  | 8964.00 | ₹ 9,41,220.00 |
| 46     | Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :                                                                                                                                                                  |        |      |         |               |
| 46.1   | W.C. pan with ISI marked white solid plastic seat and lid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 7.00   | Each | 5540.55 | ₹ 38,784.00   |
| 47     | Providing and fixing wash basin with C.I. brackets, 15 mm dia CP Brass single hole basin mixer of approved quality and make, including painting of fittings and brackets, cutting and making good the walls wherever required:-(a) White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole basin mixer                                                                                                                                                                                                                       | 7.00   | Each | 3459.05 | ₹ 24,213.00   |
| 48     | Providing and fixing white vitreous china pedestal for wash basin completely recessed at the back for the reception of pipes and fittings.                                                                                                                                                                                                                                                                                                                                                                                                             | 7.00   | Each | 1500.05 | ₹ 10,500.00   |
| 49     | Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :                                                                                                                                                                                                                                                                                                               |        |      |         |               |
| 49.1   | Kitchen sink with drain board                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |      |         |               |
| 49.1.1 | 510x1040 mm bowl depth 250 mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3.00   | Each | 6008.45 | ₹ 18,025.00   |
| 50     | Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |      |         |               |
| 50.1   | Flexible pipe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |      |         |               |
| 50.1.1 | 32 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10.00  | Each | 104.35  | ₹ 1,044.00    |
| 51     | Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing                                                                                                                                                                                                                                                                                                                                                            |        |      |         |               |
| 51.1   | Circular shape 450 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 7.00   | Each | 1248.60 | ₹ 8,740.00    |

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| 52     | Providing and fixing toilet paper holder :                                                                                                                                                                                                                                                                                  |        |       |         |               |
| 52.1   | C.P. brass                                                                                                                                                                                                                                                                                                                  | 7.00   | Each  | 680.80  | ₹ 4,766.00    |
| 53     | Providing and fixing soil, waste and vent pipes :                                                                                                                                                                                                                                                                           |        |       |         |               |
| 53.1   | 100 mm dia                                                                                                                                                                                                                                                                                                                  |        |       |         |               |
| 53.1.1 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905                                                                                                                                                                                                                                         | 116.00 | Metre | 1061.25 | ₹ 1,23,105.00 |
| 54     | Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including cost of cutting holes and making good the walls etc. : |        |       |         |               |
| 54.1   | For 100 mm dia pipe                                                                                                                                                                                                                                                                                                         | 80.00  | Each  | 308.45  | ₹ 24,676.00   |
| 55     | Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.                                                                                                                                                                                                 |        |       |         |               |
| 55.1   | 100 mm dia                                                                                                                                                                                                                                                                                                                  |        |       |         |               |
| 55.1.1 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905                                                                                                                                                                                                                                         | 24.00  | Each  | 550.80  | ₹ 13,219.00   |
| 56     | Providing and fixing plain bend of required degree.                                                                                                                                                                                                                                                                         |        |       |         |               |
| 56.1   | 100 mm dia                                                                                                                                                                                                                                                                                                                  |        |       |         |               |
| 56.1.1 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905                                                                                                                                                                                                                                         | 24.00  | Each  | 346.10  | ₹ 8,306.00    |
| 57     | Providing and fixing single equal plain junction of required degree :                                                                                                                                                                                                                                                       |        |       |         |               |
| 57.1   | 100x100x100 mm                                                                                                                                                                                                                                                                                                              |        |       |         |               |
| 57.1.1 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905                                                                                                                                                                                                                                         | 9.00   | Each  | 573.55  | ₹ 5,162.00    |
| 58     | Providing and fixing terminal guard :                                                                                                                                                                                                                                                                                       |        |       |         |               |
| 58.1   | 100 mm                                                                                                                                                                                                                                                                                                                      |        |       |         |               |
| 58.1.1 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905                                                                                                                                                                                                                                         | 3.00   | Each  | 399.60  | ₹ 1,199.00    |
| 59     | Providing and fixing M.S. stays and clamps for sand cast iron/ centrifugally cast (spun) iron pipes of diameter :                                                                                                                                                                                                           |        |       |         |               |
| 59.1   | 100 mm                                                                                                                                                                                                                                                                                                                      | 3.00   | Each  | 128.65  | ₹ 386.00      |
| 60     | Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :                                                                                                                                  |        |       |         |               |
| 60.1   | 100 mm inlet and 100 mm outlet                                                                                                                                                                                                                                                                                              |        |       |         |               |
| 60.1.1 | Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905                                                                                                                                                                                                                                         | 24.00  | Each  | 760.85  | ₹ 18,260.00   |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |       |        |             |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------|--------|-------------|
| 61     | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. : Internal work - Exposed on wall                       |        |       |        |             |
| 61.1   | 32 mm nominal outer dia. Pipes.                                                                                                                                                                                                                                                                                                                                                                                                                  | 88.00  | Metre | 500.95 | ₹ 44,084.00 |
| 62     | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. |        |       |        |             |
|        | Concealed work, including cutting chases and making good the wall etc.                                                                                                                                                                                                                                                                                                                                                                           |        |       |        |             |
| 62.1   | 20 mm nominal outer dia .Pipes.                                                                                                                                                                                                                                                                                                                                                                                                                  | 4.00   | Metre | 512.40 | ₹ 2,050.00  |
| 62.1.1 | 25 mm nominal outer dia .Pipes.                                                                                                                                                                                                                                                                                                                                                                                                                  | 24.00  | Metre | 624.70 | ₹ 14,993.00 |
| 63     | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge : External work                                                                                |        |       |        |             |
| 63.1   | 40 mm nominal outer dia. Pipes.                                                                                                                                                                                                                                                                                                                                                                                                                  | 80.00  | Metre | 559.20 | ₹ 44,736.00 |
| 64     | Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work                                                                                                                                                                                                                                                                                                                                 |        |       |        |             |
| 64.1   | 50 mm dia nominal bore                                                                                                                                                                                                                                                                                                                                                                                                                           | 120.00 | Metre | 654.20 | ₹ 78,504.00 |
| 65     | Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :                                                                                                                                                                                                                                                                                                                                                    |        |       |        |             |
| 65.1   | 50 mm nominal bore                                                                                                                                                                                                                                                                                                                                                                                                                               | 4.00   | Each  | 878.25 | ₹ 3,513.00  |
| 66     | Providing and fixing uplasticised PVC connection pipe with brass unions :                                                                                                                                                                                                                                                                                                                                                                        |        |       |        |             |
| 66.1   | 45 cm length                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |       |        |             |
| 66.1.1 | 15 mm nominal bore                                                                                                                                                                                                                                                                                                                                                                                                                               | 14.00  | Each  | 85.15  | ₹ 1,192.00  |
| 67     | Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :                                                                                                                                                                                                                                                                                                                                                                             |        |       |        |             |
| 67.1   | 150 mm diameter                                                                                                                                                                                                                                                                                                                                                                                                                                  | 7.00   | Each  | 190.10 | ₹ 1,331.00  |

|        |                                                                                                                                                                                                                                                                            |         |       |         |               |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|---------|---------------|
| 68     | Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality :                                                                                                                                                                   |         |       |         |               |
| 68.1   | 50 mm diameter pipe                                                                                                                                                                                                                                                        | 120.00  | Metre | 25.25   | ₹ 3,030.00    |
| 69     | Providing and filling sand of grading zone V or coarser grade, all round the G.I. pipes in external work :                                                                                                                                                                 |         |       |         |               |
| 69.1   | 50 mm diameter pipe                                                                                                                                                                                                                                                        | 120.00  | Metre | 176.90  | ₹ 21,228.00   |
| 70     | Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work) :                                                                                                                                    |         |       |         |               |
| 70.1   | 50 mm nominal bore                                                                                                                                                                                                                                                         | 3.00    | Each  | 706.70  | ₹ 2,120.00    |
| 71     | Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank. | 3000.00 | Litre | 9.70    | ₹ 29,100.00   |
| 72     | Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 :                                                                                                                                                                                       |         |       |         |               |
| 72.1   | 15 mm nominal bore                                                                                                                                                                                                                                                         | 7.00    | Each  | 434.20  | ₹ 3,039.00    |
| 73     | Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.                                                                                                                                      |         |       |         |               |
| 73.1   | 15 mm nominal bore                                                                                                                                                                                                                                                         | 17.00   | Each  | 708.40  | ₹ 12,043.00   |
| 74     | Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931                                                                                                                                                    |         |       |         |               |
| 74.1   | 15mm nominal bore                                                                                                                                                                                                                                                          | 21.00   | Each  | 500.35  | ₹ 10,507.00   |
| 75     | Providing and fixing PTMT grating of approved quality and colour.                                                                                                                                                                                                          |         |       |         |               |
| 75.1   | Circular type.                                                                                                                                                                                                                                                             |         |       |         |               |
| 75.1.1 | 100 mm nominal dia.                                                                                                                                                                                                                                                        | 10.00   | Each  | 33.20   | ₹ 332.00      |
| 76     | Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :                                                                         |         |       |         |               |
| 76.1   | 250 mm diameter                                                                                                                                                                                                                                                            | 100.00  | Metre | 1293.90 | ₹ 1,29,390.00 |
| 77     | Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand :10 graded stone aggregate 40 mm nominal size) up to haunches of S.W. pipes including bed concrete as per standard design :                                                                          |         |       |         |               |
| 77.1   | 250 mm diameter S.W. pipe                                                                                                                                                                                                                                                  | 100.00  | Metre | 943.90  | ₹ 94,390.00   |

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| 78     | Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |       |          |               |
| 78.1   | 250 mm dia. R.C.C. pipe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 50.00 | Metre | 811.15   | ₹ 40,558.00   |
| 79     | Constructing brick masonry manhole in cement mortar 1:4 (1 cement: 4coarse sand) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size),inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :                                                                                                                                                                         |       |       |          |               |
| 79.1   | Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |       |          |               |
| 79.1.1 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10.00 | Each  | 11530.20 | ₹ 1,15,302.00 |
| 80     | Extra for depth for manholes :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |       |          |               |
| 80.1   | Size 90x80 cm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |       |          |               |
| 80.1.1 | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.00  | Metre | 8127.45  | ₹ 24,382.00   |
| 81     | Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) complete as per design. | 4.00  | Each  | 469.00   | ₹ 1,876.00    |

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| 82     | Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |      |          |               |
| 82.1   | L D - 2.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |      |          |               |
| 82.1.1 | Rectangular shape 600x450 mm internal dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 10.00  | Each | 1255.25  | ₹ 12,553.00   |
| 83     | Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |      |          |               |
| 83.1   | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.00   | Each | 26254.80 | ₹ 26,255.00   |
| 84     | Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass/ stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : |        |      |          |               |
| 84.1   | For fixed portion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |      |          |               |
| 84.1.1 | Powder coated aluminium (minimum thickness of powder coating 50 micron)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 837.00 | KG   | 466.30   | ₹ 3,90,293.00 |
| 84.2   | For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |      |          |               |
| 84.2.1 | Powder coated aluminium (minimum thickness of powder coating 50 micron)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 670.00 | KG   | 553.55   | ₹ 3,70,879.00 |
| 85     | Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |      |          |               |
| 85.1   | With float glass panes of 5 mm thickness (weight not less than 12.50 kg/sqm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 56.00  | SQM  | 1325.55  | ₹ 74,231.00   |

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|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|--------|------------|
| 86 | Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : (a) First layer of slurry of cement @ 0.488 kg/sqm mixed with waterproofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours. (b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with waterproofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.                                                                                                                                                                                                                                                                                                                                               | 10.00 | SQM | 516.60 | ₹ 5,166.00 |
| 87 | 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 a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. (b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer- in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement : 5 coarse sand ) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer- in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. |       |     |        |            |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |       |         |               |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------|---------|---------------|
|      | (c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. (d) Finishing the surface with 20 mm thick joint less cement mortar of mix 1:4 (1 cement: 4 coarse sand) admixed with water proofing compound conforming to IS: 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. (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 directed and specified by the Engineer-in-Charge :                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |       |         |               |
| 87.1 | With average thickness of 120 mm and minimum thickness at khurra as 65 mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 320.00 | sqm   | 1502.95 | ₹ 4,80,944.00 |
| 88   | Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid door/ window/ Clerestory windows & other Frames/Chowkhat comprising of virgin PVC polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) fabricated with miter joints after applying PVC solvent cement and screwed with full body threaded star headed SS screws having minimum frame density of 750 kg/cum, screw withdrawal strength of 2200 N (Face) & 1100 N (Edge), minimum compressive strength of 58 N/mm <sup>2</sup> , modulus of elasticity 900 N/mm <sup>2</sup> and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixed in position with M.S hold fast/lugs/SS dash fasteners of required dia and length complete as per direction of Engineer-In- Charge. (M.S hold fast/lugs or SS dash fasteners shall be paid for separately). Note: For WPC solid door/window frames, minus 5mm tolerance in dimensions i.e. depth and width of profile shall be acceptable. Variation in profile dimensions on plus side shall be acceptable but no extra payment on this account shall be made. |        |       |         |               |
| 88.1 | Frame size 45x 70mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 40.00  | metre | 632.25  | ₹ 25,290.00   |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |     |            |                         |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|------------|-------------------------|
| 89   | Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid decorative type flush door shutter of required size comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/ mm <sup>2</sup> , modulus of elasticity 850 N/mm <sup>2</sup> and resistance to spread of flame of Class A category with property of being termite/ borer proof, water/moisture proof and fire retardant. WPC to be laminated with PVC foil of minimum 14 microns thick of approved design pasted with hot melt adhesive on both faces of shutter and fixing with stainless steel butt hinges of required size with necessary full body threaded star headed counter sunk S.S screws, all as per direction of Engineer-In-Charge. (Note: stainless steel butt hinges and necessary S.S screws shall be paid separately) |          |     |            |                         |
| 89.1 | 30 mm thick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 12.00    | SQM | 4,327.70   | ₹ 51,932.00             |
|      | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |     | <b>"A"</b> | <b>₹ 1,72,44,807.00</b> |
|      | Add difference in GST 18% instead of 12% as per DSR-2021 by multiplying factor of 0.0633 on DSR-21 items only on "A"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |     | <b>"B"</b> | ₹ 1,83,36,403.00        |
|      | Add multiplying correction factor on account of GST @ 0.973 vide OM Issued by DG/CPWD Vide File No 158/SE(TAS)/ GST/2024/02(E) dated 08.08.2024 on "B"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |     | <b>"C"</b> | ₹ 1,78,41,320.00        |
|      | Add Cost Index of Churachandpur 184 over DSR 2021 item i.e. 84% on "C".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |     | <b>"D"</b> | ₹ 1,49,86,709.00        |
|      | <b>Total DSR items ("C" + "D")</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |     | <b>"E"</b> | <b>₹ 3,28,28,029.00</b> |
| 90   | Extra for using Corrosion Resistant Steel Fe-500D or more instead of high yield strength deformed Fe-500 Bars.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 54935.00 | kg  | 6.25       | ₹ 3,43,344.00           |
|      | <b>Grand Total ("E" + MR Item)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |     | <b>"F"</b> | <b>₹ 3,31,71,373.00</b> |

# **PART – “C”**

## **Electrical Work**

**SCHEDULES A to F FOR ELECTRICAL WORK****SCHEDULE 'A'**

**Schedule of quantities**      **Page No. 130 to 158 (E & M Works)**

**SCHEDULE 'D'**

Extra schedule for specific requirements/document - **NIL.**  
for the work, if any.

**SCHEDULE 'E'**

Reference to General Conditions of Contract – **General Condition of Contract for CPWD work - 2023 for Construction Works with amendments issued upto date of submission of tender.**

|                                                                                                                                                                       |                                       |                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------|
| Name of Work : <b>Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur .</b> |                                       |                                            |
| A.                                                                                                                                                                    | Estimated cost of work (E&M Services) | <b>₹ 54,47,968.00 for Electrical work.</b> |
| B.                                                                                                                                                                    | Earnest Money                         | : As per major component                   |
| C.                                                                                                                                                                    | Performance Guarantee                 | : As per major component                   |
| D.                                                                                                                                                                    | Security Deposit:                     | : As per major component                   |

**SCHEDULE 'F'****GENERAL RULES & DIRECTIONS:**

|                                                                                                                                              |                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Officer inviting tender                                                                                                                      | <b>Executive Engineer, Manipur,<br/>CPWD, GPRA Colony,<br/>Sangaiprou, Imphal-795140,<br/>or<br/>His successor-in-charge of work.</b> |
| Maximum percentage of quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2.& 12.3 | <b>See below under clause 12 of<br/>Schedule 'F'</b>                                                                                  |

**Definitions:**

|         |                                                                               |                                                                                                        |
|---------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 2(v)    | Engineer-in-Charge                                                            | <b>Executive Engineer (Elect.),<br/>C.P.W.D., Agartala<br/>or<br/>His successor-in-charge of work.</b> |
| 2(viii) | Accepting Authority                                                           | <b>As per Major Component.</b>                                                                         |
| 2(x)    | Percentage on cost of materials and labour to cover all overheads and profits | <b>15%</b>                                                                                             |
| 2(xi)   | Standard Schedule of Rates:                                                   | <b>DSR 2025 with upto date correction slip &amp; Market Rates.</b>                                     |
| 2(xii)  | Department:                                                                   | <b>Central Public Works Department</b>                                                                 |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                  |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 9(ii)                | Standard CPWD contract Form GCC 2023 for Construction Works, CPWD from 7/8 as modified & corrected upto date.                                                                                                                                                                                                                                                                                                   | C.P.W.D. FORM 7 General Conditions of Contracts 2023 for Construction Works (amended upto date). |
| <b>Clause 1</b>      | Time allowed for submission of Performance Guarantee, <b>Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof</b> from the date of issue of letter of acceptance.<br>Maximum allowable extension <b>with late fee @ 0.1% per day of Performance Guarantee amount beyond the period as provided in (i) above</b> | As per Major Component.                                                                          |
| <b>Clause 2</b>      | Authority for fixing Compensation under Clause 2                                                                                                                                                                                                                                                                                                                                                                | As per Major Component.                                                                          |
| <b>Clause 5</b>      | Number of days from the date of issue of letter of acceptance for reckoning date of start                                                                                                                                                                                                                                                                                                                       | As per Major Component.                                                                          |
| <b>Clause 5(i)</b>   | Extension of time                                                                                                                                                                                                                                                                                                                                                                                               | As per Major Component.                                                                          |
| <b>Clause 5(ii)</b>  | Rescheduling of mile stone                                                                                                                                                                                                                                                                                                                                                                                      | As per Major Component.                                                                          |
| <b>Clause 5(iii)</b> | Shifting of date of start in case of delay in handing over of site                                                                                                                                                                                                                                                                                                                                              | As per Major Component.                                                                          |
| <b>Clause 6</b>      | <b>Electronic Measurement Book (EMB) through CPWD ERP Portal.</b>                                                                                                                                                                                                                                                                                                                                               |                                                                                                  |
| Clause 7             | Gross work to be done together with net payment/Adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment                                                                                                                                                                                                                                        | <b>₹ 10.00 Lacs</b> or part there of as decided by Engineer-in-Charge (for E&M works)            |
| Clause 7A            | Whether Clause 7A shall be applicable                                                                                                                                                                                                                                                                                                                                                                           | As per Major Component.                                                                          |
| Clause 8A            | Authority to decide compensation on account of contractor fails to submit completion plans                                                                                                                                                                                                                                                                                                                      | As per Major Component.                                                                          |
| Clause 10A           | List of testing equipment to be provided by the contractor at site lab.                                                                                                                                                                                                                                                                                                                                         | As required for execution of work & as per direction of Engineer-in-Charge.                      |
| Clause 10 B(ii)      | Whether clause 10-B (ii) shall be applicable.                                                                                                                                                                                                                                                                                                                                                                   | As per Major Component.                                                                          |
| Clause 10 C          | Component of labour expressed as percentage of value of electrical work                                                                                                                                                                                                                                                                                                                                         | As per Major Component.                                                                          |

|                                                                                    |                               |
|------------------------------------------------------------------------------------|-------------------------------|
| <b>Clause 10 CC</b>                                                                | <b>As per Major component</b> |
| Component of Cement                                                                |                               |
| Component of Labour                                                                |                               |
| Civil component of other Construction Materials.                                   |                               |
| Electrical and Mechanical (E&M) component of Construction Materials.               |                               |
| Component of POL (Diesel)                                                          |                               |
| Reinforcement steel bars/TMT bars/Structural steels (including strands and cables) |                               |
| Component of Bitumen                                                               |                               |

|           |                                                     |                                                                                                                                                                                                                                              |
|-----------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Clause 11 | Specification to be followed for execution of work. | CPWD General Specifications for Electrical Works <b>Part I – (Internal) 2023, Part II – (External) 2023, Part –IV (Sub-Station)-2013 and Part –VII (DG set)-2013</b> , with correction slips issued up to last date of submission of tender. |
|-----------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                  |                                                                                                                                                                   |                                |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>Clause 12</b> | <b>Authority to decided deviation upto 1.5 times of tendered amount.</b>                                                                                          | <b>As per Major Component.</b> |
| 12.2 & 12.3      | Deviation limit beyond which clause 12.2 & 12.3 shall apply for building works.                                                                                   | <b>100%</b>                    |
| 12.5 (i)         | Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for foundation work ( <b>except items mentioned in earth work subhead in DSR and related items</b> ) | <b>100%</b>                    |
| (ii)             | Deviation Limit for items mentioned in earth work Subhead of DSR or related items                                                                                 | <b>100%</b>                    |

|                    |                                                                                       |                                                                                         |
|--------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| <b>Clause 16</b>   | <b>Competent Authority for Deciding reduced rates:</b>                                |                                                                                         |
|                    | For Electrical items of work                                                          | <b>As per Major Component.</b>                                                          |
| <b>Clause 18</b>   | List of mandatory machinery, tools & plants to be deployed by the contractor at site. | <b>As required for timely execution of work as per direction of Engineer-in-Charge.</b> |
| <b>Clause 19 C</b> | <b>Chief Engineer, Agartala, CPWD or his successor-in-charge of work</b>              |                                                                                         |
| <b>Clause 19D</b>  | <b>Chief Engineer, Agartala, CPWD or his successor-in-charge of work</b>              |                                                                                         |
| <b>Clause 19G</b>  | <b>Chief Engineer, Agartala, CPWD or his successor-in-charge of work</b>              |                                                                                         |
| <b>Clause 19K</b>  | <b>Chief Engineer, Agartala, CPWD or his successor-in-charge of work</b>              |                                                                                         |

**Clause 32: Requirement of Technical Representative (S) and Recovery Rate for each of following E&M components :- As per Major Component.**

| Clause 38 : |    |                                                                                                                                                  |                        |
|-------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| i)          | a) | Schedule/ statement for determining theoretical quantity of cement & bitumen on the basis of <b>Delhi Schedule of Rates 2025</b> printed by CPWD | <b>Not Applicable.</b> |
| ii)         |    | <b>Variations permissible on theoretical quantities</b>                                                                                          |                        |
|             | a) | Cement for works with estimated cost put to tender not more than ₹ 25 lakhs.                                                                     | <b>Not Applicable.</b> |
|             |    | For works with estimated cost put to Tender is more than ₹ 25 lakhs.                                                                             | <b>Not Applicable.</b> |
|             | b) | Bitumen all works                                                                                                                                | <b>Not Applicable.</b> |
|             | c) | Steel reinforcement and structural steel Sections for diameter, section and category.                                                            | <b>Not Applicable.</b> |
|             | d) | All other materials                                                                                                                              | <b>Not Applicable.</b> |

### **SPECIAL CONDITIONS (FOR ALL E & M COMPONENTS)**

1. The applicant should either himself meet the eligibility conditions for the respective E&M components or otherwise he will have to associate with agencies, fulfilling the eligibility requirements and the consent letter from at least **One** eligible Associate Agency of the respective components of E&M work shall also be submitted as per attached **Proforma**.

In case the main contractor is himself eligible (as per eligibility criteria) for executing any specific minor component and intends doing the job himself, he may not be required to associate with another agency for that minor component of work. In such cases the main contractor also has to submit the documents as per eligibility criteria mentioned for associated agency of individual E&M component.

2. The main tenderer have to submit the following documents for association of electrical contractor within 30 days of award of work or 15 days before start of electrical related work whichever is earlier.

(i) In support of the eligibility conditions of the proposed associated electrical contractor, copy of their registration documents, Electrical Contractor's License, PAN Card, GST Registration and **verifiable work completion certificates** duly attested by the applicants (Main Contractor) shall be submitted to the concerned (Minor Component in-charge) Executive Engineer (Electrical), ACED, CPWD, Agartala, for deciding the eligibility. Proposal for associating agency for minor components of work shall be submitted in Form- "H" of this tender document from each associate independently for all electrical and mechanical components.

(ii) **The Executive Engineer (E)** will give approval for associating within 7 days after receipt of proposal from major contractor, if submitted documents are found in order.

3. Thereafter, the main contractor will have to submit MOU signed with the approved associated agency for minor component. The MOU in the enclosed form (Form –I) shall be signed by both the parties" i.e. main contractor as 1st party and associated electrical contractor as 2nd party for all electrical and mechanical components and submit the same within 7 days of receipt of approval from Executive Engineer(E) or before start of Electrical component of work, whichever is earlier.

4. The main contractor has to enter into agreement with contractor associated by him for execution of minor component. Copy of such agreement shall be submitted to Executive Engineer (E) in charge of minor component as well as Executive Engineer, in-charge of major component.

5. In the event of the concerned E&M agency (Associated agency) is not performing satisfactorily or failure of associate contractor to complete the E&M work, the main contractor on written directions of the department, shall remove the associate agency deployed on the work and shall submit name of new associate agency who fulfill the conditions mentioned in NIT to execute the left over work without any loss of time or variation in cost to the department. Such associate shall also give an undertaking along with the main tenderer that both of them shall stand guarantee for the equipments already supplied for which payment has been released by the Department, in part. If any equipment supplied for the work, during the currency of the earlier Associate contractor and paid partly by the Dept., becomes redundant /not in a position to be installed and commissioned and put to beneficial use due to change in agency for execution of E&M work, the main contractor shall be liable for replacement of the equipment(s) at no cost to Department. No change of Electrical Contractor will be allowed without prior approval of the Engineer-in- charge of the work.

6. Materials for all E & M works shall be procured only from the original equipment manufacturers/ authorized dealers of OEM. The contractor shall submit all documentary details in fulfillment of this conditions regarding procurement of materials including relevant test certificates.

7. Executive Engineer (E) shall be the Engineer-in-charge as far as electrical works are concerned. Separate tender schedule abbreviated CPWD-7 and Special Conditions for Electrical Work are appended with this tender. It will be obligatory on the part of the contractor/tenderer to sign the tender documents for all the component parts.

8. The main contractor shall be responsible and liable for proper and complete execution of the Electrical and Mechanical component of works and ensure coordination and completion of both civil and electrical work.

9. The associate contractor along with main contractor or his representative shall attend the inspection of the work by the Engineer-in-Charge of E&M works as and when required.

10. All LED bulbs/LED fittings shall be guaranteed for a period of 5 years. 50% of the performance Guarantee shall be refunded to the contractor soon after completion of the work and recording of the completion certificate. 50% of the performance Guarantee shall be retained as Security Deposit. 50% of the performance Guarantee shall be retained as Security Deposit plus 2.5% Security Deposit already deducted from running bills (Total 2.5 +2.5= 5%) shall be refund year wise proportionately.

11. For components of E&M works, the eligibility criteria will be as detailed below :

| Sl. No. | Component of E & M works                                         | Eligibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Providing Internal Electrical Installations & compound lightings | The contractor enlisted for eligible class in <b>Building &amp; Roads category (composite)</b> in CPWD for execution of this Sub head of work, possessing valid Electrical Contractor License.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2.      | Providing CCTV Services.                                         | <p>The main contractor shall have to associate with agency fulfilling the following eligibility criteria having successfully completed during last seven years ending up to previous day of last date of submission of tender as given below with completion certificate issued by an officer not below the rank of Executive Engineer or equivalent duly attested.</p> <p>Three similar completed works each of value not less than 40% of Estimated cost for CCTV Services put to tender<br/>or<br/>Two similar completed works each of value not less than 60% of Estimated cost for CCTV Services put to tender<br/>or<br/>One similar completed work of value not less than 80% of Estimated cost for CCTV Services put to tender.</p> <p>Similar work shall mean "SITC of CCTV Services."</p> |

However, the Building & Roads category (composite) contractor shall also be eligible to carry out himself without associating any specialized agency provided:

(a) He fulfills the prescribed eligibility criteria respectively for this work.

Or

(b) He directly procures the equipment of approved make from manufacturer and gets it installed from authorized agency/ service provider of the manufacturer/ specialized agency, all as per the eligibility criteria mentioned as above.

**Note:** The value of executed works shall be brought to current level by enhancing the actual value of work at simple rate of 7% per annum calculated from the date of completion to last date of receipt of application for tenders

12. If the main contractor fails to associate with agencies for execution of minor components of work within 30 days of award of work OR 15 days before start of minor component of work whichever is earlier or furnishes incomplete details or furnishes details of ineligible agencies even after the giving sufficient opportunity, the entire scope of such component of work shall be withdrawn from the main agency and the same shall be got executed by the Engineer-in –Charge at the risk and cost of the main agency.

**FORM -G**

**CONSENT LETTER FROM ELIGIBLE ASSOCIATE AGENCY OF MINOR COMPONENT  
OF WORK**

***Name of Work : Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal  
Extension of Office Building for SIB at Churachandpur, Manipur .***

**Agreement No: -**

1. I / We hereby give my consent to associate with M/s ....., for executing the minor component of work of ..... (Mention category).
2. I / We will execute the work as per specifications and conditions of the agreement and as per directions of the Engineer-in-Charge for the corresponding minor work till the completion of the work.
3. I / We will be responsible for necessary action to handover the installations and for rectification of defects and repair during the maintenance / warranty period.
4. Also, I / We will employ full time technically qualified Engineer / supervisor for the minor component of the work as required for the work. I / We will attend inspection of officers of the department as and when required.
5. Applicable for Internal EI Component:
  - (i) I/We will agree that I/we will obtain undertaking from LED manufacturers for 5 years warranty and submit to Engineer-in-charge.

Date:

Signature with date of Major component      Signature with date of Associate/ Minor Component

Contractor  
Address

Contractor  
Address

1. Witness with address  
(From major component contractor side)
2. Witness with address  
(From minor component contractor side)

**FORM-H****PROPOSAL FOR ELIGIBLE ASSOCIATING AGENCIES FOR MINOR COMPONENTS OF WORK**

**Name of Work : Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur .**

I/we hereby propose the following agencies as per mentioned against each for executing corresponding minor components of work. Their consent letters are also attached.

| Sl. No.                                                                           | Name of Associated Contractor | Category and class of registration | Enlistment copy/completion Certificates attached | Monetary Limit of work | Validity of registration | Consent letter attached (Yes/No) |
|-----------------------------------------------------------------------------------|-------------------------------|------------------------------------|--------------------------------------------------|------------------------|--------------------------|----------------------------------|
| <b>1. Providing of Internal Electrical Installations &amp; compound lightings</b> |                               |                                    |                                                  |                        |                          |                                  |
| 1                                                                                 |                               |                                    |                                                  |                        |                          |                                  |
| 2                                                                                 |                               |                                    |                                                  |                        |                          |                                  |
| <b>2. Providing of CCTV System</b>                                                |                               |                                    |                                                  |                        |                          |                                  |
| 1                                                                                 |                               |                                    |                                                  |                        |                          |                                  |
| 2                                                                                 |                               |                                    |                                                  |                        |                          |                                  |

**Note:** Self Attested photocopies of enlistment order, valid electrical contractor license, and work experience certificates of each agency for each component of E&M work shall be submitted.

Signature of contractor

**FORM- "I"**

**MEMORANDUM OF UNDERSTANDING (M.O.U)**  
**(to be submitted for each and every E&M component)**

1. M/s. (Name of the firm with full address)  
Enlistment Status Valid Upto:  
(Henceforth called the main Contractor)
2. M/s. (Name of the firm with full address)  
Enlistment Status Valid Upto:  
(Henceforth called Associated Electrical Contractor or Electrical Contractor)

For the execution of Electrical Work ***"Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur ."***

(-----) as per schedule specifications, terms and conditions of the tender.

We state that M.O.U between us will be treated as an agreement and has legality as per Indian Contract Act (amended upto date) and the department (CPWD) can enforce all the terms and conditions of the agreement for execution of the above work. Both of us shall be responsible for the execution of work as per the agreement to the extent this MOU allows. Both the parties shall be paid consequent to the execution as per agreement to the extent this MOU permits. In case of any dispute, either of us will go for mediation by the Engineer In charge. Any of us may appeal against the mediation to the **Chief Engineer, CPWD, Agartala**. His decision shall be final and binding on both of us.

**We have agreed as under:**

1. The electrical contractor will execute all electrical works in the wholesome manner as per terms and conditions of the agreement.
2. The electrical contractor shall be liable for disciplinary action if he fails to discharge the action(s) and other legal action as per agreement.
3. All the machinery and equipments, tools and tackles required for execution of the electrical works, as per agreement, shall be the responsibility of the electrical contractor.
4. The site staff required for the electrical work shall be arranged by the electrical contractor as per terms and conditions of the agreement.
5. Site order book maintained for the said work shall be signed by the main contractor as well as by the Engineer of the Association Contractor and by Associated Contract or himself.
6. All the correspondence regarding execution of the electrical work shall be done by the department with the Associated Contractor with a copy to the main contractor. In case of non-compliance of the provisions of agreement, the main contractor, as well as the associated contractor shall be responsible. The action under clauses 2 and 3 shall be initiated and taken against the main contractor.

SIGNATURE OF MAIN CONTRACTOR

Date:  
Place:

1. Witness with address

(From major component contractor side)

SIGNATURE OF ASSOCIATED  
ELECTRICAL CONTRACTOR

Date:  
Place:

2. Witness with address

(From minor component contractor side)

## **ADDITIONAL CONDITIONS FOR ELECTRICAL WORK**

1. The Contractors are advised to inspect and examine the site and its surroundings and satisfy themselves with the nature of site, the means of access to the site, constraints put by local regulations or any other circumstances which may affect or influence their tenders Nothing extra shall be payable on this account. No claims, whatsoever, shall be entertained at a later date for any errors found, on plea that the information supplied by the Department in the tender is insufficient or is at variance with the actual site conditions.
2. The Contractor shall, if required by him, before submission of the tender, **inspect the drawings/ information (If any) in the Office of the Executive Engineer (Authority of Notice Inviting Tender).** The Department shall not bear any responsibility for the lack of knowledge and also the consequences, thereof to the Contractor. The information and data shown in the drawings / mentioned in the tender documents have been furnished, in good faith, for general information and guidance only. The Engineer-in-Charge, in no case, shall be held responsible for the accuracy thereof and/or interpretations or conclusions drawn there from by the Contractor and all consequences shall be borne by the Contractor. No claim, whatsoever, shall be entertained from the Contractor, if the data or information furnished in tender document is different or in-correct otherwise or actual working drawings are at variance with the drawings available for inspection or attached to the tender documents (Except for Deviation in quantity and extra item required for bonafide purpose). It is presumed that the Contractor shall satisfy himself for all possible contingencies, incidental charges, wastages, bottlenecks etc. likely during execution of work and acts of coordination, which may be required between different agencies. Nothing extra shall be payable on this.
3. The main contractor shall be responsible and liable for proper and complete execution of the E & M work and ensure coordination and completion of both civil and E & M work.
4. The work shall be executed as per CPWD General Specifications for Electrical **(Part I – Internal) 2023, (Part II – External) 2023, Part – IV (Substation 2013), Part –V (Wet riser and Sprinkler system) 2020, Part – VI (Fire Detection and Alarm System, Part –VII (DG set) 2013, relevant IS and BIS standards amended up to date and as per directions of Engineer-in-charge.** These additional specifications are to be read in conjunction with above and in case of variations; specifications given in this Additional conditions shall apply. However, **nothing extra shall be paid on account of these additional specifications & conditions as the same are to be read along with schedule of quantities for the work. The rates mentioned for the items are for complete job in each sub-head including supply, installation, testing and commissioning, If any unforeseen minor item is not mentioned in the BOQ shall be deemed included in the item,. Nothing extra shall be paid on this account. The rate shall be quoted accordingly.**
5. The tenderer is advised not to deviate from the technical specifications/ items, commercial terms and conditions of NIT like terms of payment, guarantee, arbitration clause, escalation etc.
6. **Rates:** The rates quoted by the tenderer for electrical component Items shall be firm and inclusive of all taxes (including works contract taxes), duties and levies and all charges for packing forwarding, insurance, freight and delivery installation, testing and commissioning etc. at site including temporary constructional storage, risks, overhead charges general liabilities/obligations and clearance from local authorities. However, the fee for these inspections shall be borne by the department.
7. **Material for Electrical installation:**
  - a. The agency shall bring the various items & materials as per actual requirement at site at the time of execution of work. **For any material brought prematurely at site without approval of Engineer-In-Charge, no payment shall be made for such material and Department shall not be responsible for its damage / deterioration.** The make of material have been indicated in the BOQ. The Engineer-in-charge shall reserve the right to instruct the contractor to remove the material which, in his opinion, is not as per specifications.
  - b. **Quality of material:** All materials and equipment for electrical installation / work supplied by the contractor shall be new. They shall be of such design, size and materials as to satisfactorily function under the rated conditions of operation and to withstand the environmental conditions at site.
  - c. The quantities of various items may vary from the quantities given in schedule of work. The agency shall bring the various items & materials as per actual requirement at site. **Excess material more than the actual requirement shall not be accepted & paid by the department.**

- d. **Before start of the work the contractor is required to submit the working drawing. The work shall start only after the working drawing is approved by the Engineer-in-Charge of the work.**
- e. Before placing orders on the manufacturer for supply of cables, pole, Fittings etc, the contractor is required to get assessed the exact requirement of each size of the cable at site of work and get the same approved from the Engineer-in-charge. Department shall not take back any spare quantity of cable whether in pieces or in sealed drums/ containers, if procured more than that required at site / approved by the Engineer-in-charge.

However, it may be note that the contractor shall have to arrange extra quantity of the cables, poles, fittings etc, over and above that assessed by the contractor, before start of the work and approved by the Engineer-in-charge, if such additional quantity of the cables, Poles, Fittings etc, is required at site, in order to make the installation as covered in Scope of this work, in order to make the installation operational, Such quantity shall be paid as per contractual provisions of the Agreement.

8. It shall be the responsibility of the bidder to ensure that all wiring work shall be carried out as per specification.
9. **Completeness of Electrical work:**  
All hardware items such as screws, thimbles, G.I. wires etc. which are essentially required for completing an Electrical BOQ item as per specifications will be deemed to be included in the item even when the same have not been specifically mentioned. All hardware materials such as nuts/bolts/screws/ washers etc. to be used in the electrical scheduled items shall be zinc/cadmium plated iron. Nothing extra on account of same shall be paid.
10. For items/equipment requiring initial inspection at manufacturer's works' the contractor will intimate the date of testing of equipment at the manufacturer's works before dispatch. The department also reserves the right to inspect the fabrication job at factory and the successful tenderer has to make the arrangement for the same. The successful tenderer shall give sufficient advance notice regarding the dates proposed for such tests/inspection to the department's representative(s) to facilitate his presence during testing/fabrication. The Engineer-in-charge at his discretion may waive off such testing/fabrication. The cost of the Engineer's visit to the factory will be borne by the Department. Also equipment may be inspected at the Manufacture's premises, before dispatch to the site by the contractor.
11. **Conformity with statutory Acts, Rules, Standards and codes**
  - i) All components shall conform to relevant Indian Standard Specifications, International Standards and shall bear the stamp of the testing laboratory wherever existing and amended to date.
  - ii) All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 2003 and Indian Electricity Rules, 1956 amended to date. They shall also conform to CPWD General Specifications for Electrical works, (Part I – Internal) 2023, (Part II – External) 2023, Part – IV (Substation 2013), Part –V (Wet riser and Sprinkler system) 2020, Part – VI (Fire Detection and Alarm System, Part –VII (DG set) 2013, relevant IS and BIS standards amended up to date and as per directions of Engineer-in-charge.
  - iii) In respect of all labour employed directly or indirectly on the work for the execution of the work, the contractor at his own expense, will arrange for the safety provisions as per the statutory provision, B.I.S. recommendations, factory act, and workman's compensation act. CPWD code and instructions issued from time to time. Failure to provide such safety requirements would make the tenderer liable for penalty. In addition the Engineer-in- charge, shall be at liberty to make arrangements and provide facilities as aforesaid and recover the cost incurred thereon form the contractor.
  - iv) The contractor shall provide necessary barriers, signals and other safety measures wherever necessary so as to avoid accident. He shall also indemnify CPWD against claims for compensation arising out of negligence in this respect. Contractor shall be liable, in accordance with the Indian law and Regulations for any accident occurring due to any cause. The department shall not be responsible for any accident occurred or damage incurred or claims arising there form during the execution of work. The contractor to cover the risk. No extra payment would be made to the contractor due to the above provisions thereof.

12. **Storage and custody of electrical installation materials:** The room may be used for storage of sundry materials and erection equipment if available or else the agency has to make his own arrangement. No separate storage accommodation shall be provided by the department. Watch and ward of the stores and their safe custody shall be the responsibility of the contractor till the final taking over of the installation by the department/ Client.
13. **Care of the Building:** Care shall be taken by the contractor while handling and installing the various equipment and components of the work to avoid damage to the building. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove at his cost all unwanted and waste materials arising out for the installation from the site of work.
14. **Completion period:** The completion period indicated in tender documents is for the entire work of supplying, installation, testing, commissioning and handing over of the entire electrical installation to the satisfaction of the Engineer-in-Charge.
15. **Performance Guarantee for Electrical Installation :**  
The tenderer shall guarantee among other things, the following:
  - a) Quality, Strength and performance of the materials used.
  - b) Safe mechanical and electrical stress on all parts under all specified conditions of operation.
  - c) Satisfactory operation during the maintenance period.
16. **Guarantee of other equipment's except LED :**  
All equipment/ installations shall be guaranteed for a period of 1years from the date of taking over the Installation by the department against unsatisfactory performance and/or break down due to defective design, workmanship of material. The equipment or components, or any part thereof, so found defective during guarantee period shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer-in-Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in-Charge in this regard shall be final.
17. **Guarantee for LED fittings & fixtures**
  - a) All the LED Bulbs/ LED fittings shall be guaranteed for a period of 5 Years and the agency shall submit guarantee /warranty certificate issued by the competent authority of the manufacturer, specifically issued for this work/ agreement, before payment of final bill.
  - b) 50% of the Performance Guarantee for tendered amount of LED fittings, shall be refunded to the contractor soon after the completion of the work and recording of the completion certificate.
  - c) 50% of the Performance Guarantee for tendered amount of LED fittings, shall be retained as Security Deposit.
  - d) 50% of the Performance Guarantee retained on tendered amount of LED fittings, as Security Deposit plus 2.5% Security Deposit already deducted from running bills (total 2.5 +2.5 = 5% of tendered amount of LED fittings) shall be refunded year wise proportionately.
  - e) Sample of any quantity & any type of LED fitting at random selected from the material supplied at site as per discretion of Engineer-In-charge may be sent to any NABL/UL accredited lab for the checking and verification of its performance parameter as per LM-79/ 80 report. This expenditure cost shall be borne by the department. However, in case of failure of sample or the sample not found as per specification, the expenditure on this A/C shall be recovered from the bill of the contractor and the material shall required to be removed from the site.
  - f) The contractor shall arrange to submit LM -79 & LM -80 reports from LED manufacturer for each and every type of LED fittings from NABL accredited lab.
  - g) In the acceptable makes of fitting model No. of one of the acceptable make has been mentioned for guidance. However, the contractor is free to supply any of the makes, provided the parameters of the fittings match with the fitting model No. mentioned in NIT. The decision of Engineer-in- charge shall be final.
  - h) The entire installation shall be at the risk and responsibility of the contractor until these are tested and handed over to the department. However if there is any delay in construction from the department side, the installation may be taken over in parts, but the decision on the same shall rest with Engineer-in-Charge which shall be a binding on the contractor.

**18. Power Supply:**

Required electrical power shall be arranged by the contractor for installation purpose and payment for electricity charges shall be made by contractor. Electrical power supply required for testing of entire installation after completion shall be arranged by the department.

**19. Data Manual and Drawings to be furnished by the tenderer:**

The successful tenderer would be required to submit the followings for approval before commencement of installation.

- i. Technical submittal/ catalogue / brochures of all equipment of Electrical installations to Engineer - In-Charge. Only after approval of such approval, tenderer should place order for equipment and bring it to site.
- ii. All general arrangement drawings.
- iii. Complete layout dimensions for every unit/group of units with dimensions required for erection purposes.
- iv. Any other drawing/information not specifically/mentioned above but deemed to be necessary for the job by the contractor.
- v. The contractor shall also supply coordination drawing of all services, for which nothing extra shall be paid.

**20. Completion Plan & Test Certificate for Electrical Installations: -**

The layout of all the installation for all services with proper dimensions, shall be finalized in consultation with the Engineer in charge or his representative and the lay out shall be got approved by the Engineer in charge before start of the work.

Contractor shall submit completion plan/ Electrical drawings in triplicate before finalisation of bill. Failing which recovery @2.5% subject to maximum of Rs. 25000/- shall be made from final bill. Test certificate for the work carried out shall also be submitted and failing which recovery @1% maximum of Rs.1500/- shall be made from final bill.

**21. Extent of work :**

- a) The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning as may be required by the department. The term complete installation shall not only mean major items of the plant and equipment covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract.
  - b) Minor building works necessary for installation of equipment, foundation, making of opening in walls or in floor and restoring to their original conditions, finish and necessary grouting etc. as required.
  - c) Maintenance during defect liability period by providing spares of original manufacturer.
  - d) Any item required for completion of the work but left in-advertantly shall be executed with-in the quoted rates.
22. The work shall be carried out in engineering like manner. The bad workmanship will not be accepted and defects shall be rectified at contractor's cost of the satisfaction of the Engineer-in-Charge. The programme of electrical works are to be co-ordinated in accordance with the building work and no claim for idle labour will stipulated in the tender, electrical work shall have to be completed along with completion of civil work.

**23. Works to be done by the contractor :** Unless otherwise mentioned in the tender documents, the following works shall be done by the contractor and therefore, their cost shall be deemed to be included in their tendered cost- whether specifically indicated in the schedule of work or not: -

- i) Suspenders, brackets and floor/wall supports for suspending/ supporting cable tray etc.
- ii) Sealing of all floor slab/wall openings provided by the Department or made by the contractor for laying of pipes & cables from fire safety points of view.
- iii) Painting of all exposed metal surfaces of equipments and components appropriate colour as per relevant part of bid document.
- iv) Making opening in the minor wall/floors/slabs or modifications in the existing openings wherever provided for cable/cable tray etc. Opening in the slab/retaining walls/brick wall etc. shall be made by means of core cutting machines only.

- v) Making good all damages caused to the structure during installation and restoring the same to their original finish.
- vi) Approval from Local Body as may be required as per local bye-laws. (The contractor's responsibility shall be limited to the work executed by him.)

#### **24. Inspection and testing of material for Electrical installation /work:**

- a) The Engineer-in-charge or his authorized representative may inspect any material at manufacturers' works and may witness routine tests as per relevant Indian Standard Specifications or other relevant specifications at manufacturers' works. Main items like Electrical panels, etc shall be offered for inspection at manufacturer's site.
- b) The Engineer in charge may wave off the inspection at his discretion and allow for dispatch of the items. But the responsibility of the correctness of the item lies with the contractor and also should be got checked at site by the Engineer-in-charge or his authorized representative.
- c) The contractor shall give in writing advance notice to the Engineer-in-charge and arrange for such inspection / presence for testing at manufacturer's work. The TA/DA etc. of the departmental personnel who will be deputed to witness the tests etc. shall be borne by the Department. The Engineer-in-charge or his authorized representatives shall have, at all the reasonable times, access to the contractors premises or works or other works where manufacturing / fabrication shall be done and shall have the power, at all reasonable times, to inspect and examine the materials and workmanship during its manufacture or fabrication.
- d) Inspection of imported materials at foreign works shall however not be carried out by the department. These materials shall be inspected and tested at site. Manufacturers' original test certificates and document of import / shipment should be provided to the department along with the materials without which no payment should be made to the contractor.
- e) The contractor shall arrange for all the materials and labour required in connection with inspection of equipment or for any testing to be carried out at his works / manufacturers' works or at site of installation. Notice of such inspection / presence for testing shall be given by the contractor to the Engineer-in-charge at least fifteen days in advance. Notwithstanding approval for such tests / inspection of equipment / components by the Engineer-in charge or his authorized representative, the contractor shall be required to perform site tests as desired by the Engineer-in-charge and prove the correctness of ratings and performance of equipment / components and materials supplied and / or installed by him as per contract specifications and conditions at his own cost.
- f) The Engineer-in-charge reserves the right to reject any equipment / machinery / material, be found not comply with contract specifications or its performance is not satisfactory on tests after installation, within the warranty period.
- g) Final inspection and testing will be done by the engineer-in-charge or his representative as per details to be indicated by the engineer-in-charge. It shall be the responsibility of the contractor to get the installation inspected and passed by the local authorities concerned, as may be required by the local bye laws. The contractor will extend all help including test facilities to the representatives of the local bodies. In case the contractor fails to make desired facilities available during inspection, the department reserves the right to provide the same at the risk and cost of the contractor. The observation of the local authorities will be promptly attended by the contractor. The installation will be accepted by the department only after receiving clearance from the local bodies / fire authorities. The inspection charges livable by the local / statutory authorities for the inspection shall however, be borne by the department.
- h) Copies of all documents of routine and type test certificates of the equipment, carried out at the manufacturers premises shall be furnished to the Engineer-in-Charge and consignee.
- i) Even ISI marked materials shall be subjected to quality test at the discretion of the Engineer-in-charge besides testing of other materials as per the specifications described for the item/material. Whenever ISI marked materials are brought to the site of work; the contractor shall, if required by the Engineer-in-Charge, furnish manufacturers test certificates to establish that the materials procured by the contractor for incorporation in the work satisfy the provisions of IS codes relevant to the material and/or the work done.
- j) Materials and equipment to be used in the work shall be inspected by the departmental officers. Such inspection will be of following categories:
  - i. Inspection of materials / equipment to be witnessed at the Manufacturer's premises in accordance with relevant BIS / Agreement Inspection Procedure.
  - ii. To receive materials at site with Manufacturer's Test Certificate(s)

- iii. To inspect materials at the authorized dealer's godown to ensure delivery of genuine materials at site.
- iv. To receive materials after physical inspection at site.
- k) Final Inspection and testing will be done by the Engineer-in-Charge or his representative as per specification and CPWD General Specifications as applicable.
- l) After completion of Electrical installation work in all respect the contractor shall offer testing installation.
- m) Adequate care to ensure that only tested and genuine materials of proper quality are used in work shall be ensured by firm. The firm shall ensure that:
- n) Material will be ordered & delivered at site only with the prior approval of the E-I-C to ensure timely delivery.

#### **Compliance with Regulations and Indian standards.**

- I. All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by this specification. In particular, the equipment and installation will comply with the following:
  - i) Factories Act.
  - ii) Indian Electricity Rules.
  - iii) I.S. & B.S. Standards as applicable.
  - iv) Workmen's Compensation Act.
  - v) Statutory norms prescribed by local bodies.
- II. Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.
- III. Successful tenderer shall arrange for compliance with statutory provisions of safety regulations and departmental requirements of safety codes in respect of labour employed on the work by the tenderer.
- 25. Indemnity:** The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the department shall not be responsible for any accident or damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipment and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer due to the above.
- 26. Erection Tools:** No tools and tackles either for unloading or for shifting the equipment for erection purposes would be made available by the department. The successful tenderer shall make his own arrangement for all these facilities.
- 27. Cooperation with other agencies:** The successful tenderer shall co-ordinate with other contractors and agencies engaged in the construction of building, if any, and exchange freely all technical information so as to make the execution of this works contract smooth. No remuneration should be claimed from the department for such technical cooperation. If any unreasonable hindrance is caused to other agencies and any completed portion of the work has to be dismantled and re-done for want of cooperation and coordination by the successful tenderer during the course of work, such expenditure incurred will be recovered from the successful tenderer if the restoration work to the original condition or specification of the dismantled portion of the work was not undertaken by the successful tenderer himself.
- 28. Insurance and Storage of material for Electrical component of work:** All consignments are to be duly insured up to the destination from warehouse to warehouse at the cost of the supplier. The insurance covers shall be valid till the equipment is handed over duly installed, tested and commissioned.  
Before commencing the execution of work, the Contractor shall, without in any way limiting his obligations and liabilities, insure at his own cost and expense against any damage or loss or injury, which may be caused to any person or property, at site of work. Also, he shall indemnify the Department from any liability during the execution of the work. Further, he shall obtain and submit to the Engineer-in-Charge, a third party insurance policy for maximum Rs.10 lakh for each accident, with the Engineer-in-Charge as the first beneficiary. The insurance shall be obtained in joint names of Engineer-in-Charge and the Contractor (who shall be second beneficiary). The contractor shall also be required to obtain Workman compensation policy as per labour (all categories) deployment and as per rule.
- 29. Verification of correctness of Equipment of electrical work at Destination:** The materials shall be procured only from the manufacturers and their authorized dealers and documentary proof for such procurement and supply shall be produced by the contractor. The contractor shall have to produce all the relevant records to certify that the genuine equipment from the manufacturers has been supplied and erected. The department

reserves the right to send such materials to the manufacturers / authorized test laboratory to verify the genuineness and quality of the product. The Contractor shall submit all documentary details in fulfillment of this conditions regarding procurement of materials. Contractor shall preserve the copies of invoices, test certificates; gate passes etc. to prove the genuineness of material/purchases from manufacturer or authorized dealers which are used at site as per agreement.

### 30. Painting:

All equipment works shall be painted at the works before dispatch to the site.

### 31. Maintenance during warranty period:

- a) Sufficient trained and experienced staff shall be made available to meet any exigency of work attend the complaint during the guarantee period of one year from the handing over of the installation.
- b) The maintenance, routine as well as preventive for **one year** from the date of taking over the installation as per manufacturer's recommendation shall be carried out and the record of the same shall have to be maintained. Nothing extra shall be paid on this account.
- c) **All guarantee/warranty for equipments are on site basis. Contractor will arrange specific engineer for rectify the defect at site and if it is necessary to take defective equipment at their factory the contractor will arrange the freight charges at their own, nothing will be paid extra for this by the department.**

### 32. Interpreting Specifications for Electrical Installation work:

In the case of discrepancy between the schedule of Quantities, the Specifications and/ or the Drawings, the following order of preference shall be observed:-

- (i) Description of Schedule of Quantities.
- (ii) Technical Specifications and Additional Conditions
- (iii) CPWD Specifications relevant to specific work.
- (iv) Indian Standard Specifications of B.I.S.
- (iv) Drawings if any.

**In case of discrepancy among the specifications/conditions as mentioned above, precedence given in 'General Conditions of Contract for Central PWD Works' shall be followed.**

33. The Contractor(s) shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night, speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all damages and accidents caused to existing/new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work. In case of any accident of labours/ contractual staff's the entire responsibility will rest on the part of the contractor and any compensation under such circumstances if becomes payable the same shall be entirely born by the contractor and department shall have no role on this account.
34. The Contractor(s) shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. However if any change is required, the same shall be done with the approval of Engineer-in-Charge & no extra payment shall be made on this account.
35. The Main contractor shall be responsible for the watch and ward of the site /property/ material provided by him for electrical work/ installation and materials issued by the department against pilferage and breakage during the period of execution and thereafter till the work is completed and physically handed over to the department. He should make his own arrangement for proper watch and ward at his risk and cost. No claim will be entertained on this account.
36. The work shall be carried out in engineering like manner and bad workmanship shall be rejected summarily. For redoing the job, no claim of the contractor shall be entertained on this account.
37. The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material or work beyond set out tolerance limits shall be summarily rejected by the Engineer-in-charge.
38. The work is to be carried out in accordance with the plans. The contractor shall have to engage well experienced skilled labour and deploy modern T&P and other equipment to execute the work. However, the contractor will be bound to carry out the work with minor deviation over the plan supplied if desired by the Engineer-in-Charge of the work.
39. The Main contractor or his authorized representative shall sign the site order book and comply with the remarks entered therein by the representative of the Department.
40. The contractor will ensure that all the skilled persons managed / deployed for executing the electrical work **possess wireman license issued by approved authorities**, otherwise he will not be permitted to execute the work. Also, consequences arising due to the default of the contractor to comply with this condition would be contractor's responsibility only.

**TECHNICAL SPECIFICATIONS FOR ELECTRICAL WORK /INSTALLATION**

1. All the works shall be carried out as per CPWD General Specifications for **Electrical Works (Part I – Internal) 2023, (Part II – External) 2023, Part – IV (Substation 2013), Part –V (Wet riser and Sprinkler system) 2020, Part – VI (Fire Detection and Alarm System, Part –VII (DG set) 2013, relevant IS and BIS standards amended up to date and as per directions of Engineer-in-charge.**
2. **General requirements of components:**
  - 2.1. The MCB should be of same make as that of MCB DBs.
  - 2.2. The fan box cover shall be made from thick phenolic laminated sheet cover as per CPWD specification.
  - 2.3. The metallic junction boxes & looping boxes shall be covered with approved makes of phenolic laminated sheet. For telephone, television & fire alarm system shall be provided at all the floors within scope of work without any extra cost as per requirement & layout approved by Engineer- in-charge.
3. **Ratings of components:**  
All components in a wiring installation shall be of appropriate ratings of voltage, current and frequency, as required at the respective sections of the electrical installations in which they are used.
4. The laying of conduit in roof will be done properly and with due care and coordination with other agencies. The contractor shall keep a close watch on civil work and maintain proper coordination among all other discipline so that the laying of electrical conduit on roof slab is done as soon as the roof shuttering is ready.
5. The layout and orientation of conduit in roof slab as well as that in wall and position of DBs, switch boxes and fittings shall be finalized in consultation with the Engineer-in-charge or his authorized representative and as per drawings approved by the department, the conduit layout drawings are to be submitted by the contractor as per the site feasibility. Sizes of the conduits shall be as per the CPWD specification. When any deviation from the drawing is required, the same shall be finalized in consultation with the engineer-in-charge or his authorized representatives.
6. The decision of the engineer-in-charge is final. The wires / cables used for point wiring, circuit wiring, sub-main wiring, power wiring and other wirings shall be done by FRLSH grade PVC insulated copper conductor single core cable of 1100 V grade and of makes as specified in the list of accepted makes of materials. All the wires should be terminated to the switch box / DB / MCB etc. by crimping with suitable size tinned copper lugs, unless the wire is single stranded. Nothing extra shall be paid on this account.
7. Changes / revisions incorporated by the civil wing in the construction and / or modification done in the drawings shall have to be co-related and decision of the engineer-in-charge should be obtained in case of any change. Junction boxes / pull through boxes of appropriate size shall be provided wherever required within the quoted rates. However, the length of conduit will be measured on linear basis wherever specified for linear measurements, including the length of box. Where more than one conduit is laid side by side, instead of small junction boxes for each conduit one composite / common junction box shall be used within the quoted rates. Hidden / concealed items and earthing work shall be done in the presence of the Engineer-In-charge of the work or his authorized representative only.
8. The contractor shall give due notice for such work in advance to the department. The wireman / electrician engaged shall possess valid electrical workman permit in appropriate category as per prevailing rules. Recess type fittings which shall have to be fixed in false ceiling in recess, if any, shall be hanged from the real ceiling by conduit / GI wire or chain as required for which nothing extra shall be paid.
9. Wires to be terminated up to the fittings through the steel conduit / PVC flexible conduit as required. The extended portion shall be deemed to be included in the point wiring, nothing extra shall be paid. The GA drawing showing layout of the main board, allied equipment, if any, shall be got approved by the contractor from the engineer-in-charge before fabrication and execution.
10. The contractor shall have to furnish the insulation test report, earth test report, along with all required details of electrical load on the prescribed Performa for the electric connection from the supply company. The contractor shall submit the completion certificates and completion plan **as per clause 1.26** of General specification for Electrical work (Part-I Internal)-2023.
11. The chases in wall shall be done by chase cutting machines, for which the contractor shall arrange adequate numbers of chase cutting machines i.e. chase cutters for cutting chases in wall etc. for laying of conduit within the scope of work within the quoted rates.

12. Unless otherwise single sided signage is specifically requisitioned by the engineer-in-charge, the LED type electric signage shall be of both sided type. The signage shall be with battery backup for 2 hours. The inscription shall be as to be decided by the client / Engineer in charge. The photo luminescent signage may have to be installed on wall / in recess or to be hanged from ceiling. In case of hanging from ceiling, suitable anti-corrosive steel chains should be used for hanging the signage. Electrical connection to the signage shall be done by 2 x 1.5 sq.mm copper conductor single core FRLSH PVC cable to be drawn with PVC sleeve / PVC flexible conduit as deemed fit.
13. The connections of switches, sensors, earthing conductors & interconnections cables shall be made by adequate rating thimbles of approved standard makes only and nothing extra on this account shall be paid. If not complied, recovery shall be made @ Rs.50/ point / MCB. During lying of conduit, Fish wire shall be drawing into conduit without any extra cost. If not complied, recovery shall be made @ Rs.50/ point / MCB.
14. Modular type switches / sockets / telephone outlets / TV sockets are to be provided wherever indicated in the items. The same shall be of only one make. The modular plates of switches, sockets, telephone & TV sockets etc. shall be in two parts i.e. plates with **metal base frames** within quoted rates. Switch with power point will be with **On/Off indicating lamp**.
15. **Metal double door DB shall have minimum IK 9 protection.** Agency will submit technical submittal for same.
16. Adequate care to ensure that only tested and genuine materials of proper quality are used in work shall be ensured by firm.
17. Similarly, for fabricated equipment, the contractor will first submit dimensional detailed drawings for approval before fabrication is taken up in the factory. Suitable stage inspection at factory also will be made to ensure proper use of materials, workmanship and quality control.
18. The contractor shall give a trial run of Electrical Installation/ machinery for establishing its capability to achieve the specifications within laid down tolerances to the satisfaction of the Engineer-in-charge.
19. **Provisions for services and proper planned of electrical work:-**  
The main contractor shall make provision such recesses, holes, openings, etc., as may be required for the electric, air conditioning and other related works. The main contractor has also to fix inserts, sleeves, brackets, conduits, base plates, insert plates, clamps etc. if any at the time of casting of concrete, stone work & brick work. These inserts, sleeves, brackets, conduits, base plates, insert plates, clamps etc. shall be arranged by the contractor and shall be paid accordingly if these are not the part of equipment for which it is being provided.
20. The contractor shall ensure quality construction in a planned and time bound manner. Any substandard material or work which is not within permissible tolerance limits shall be summarily rejected by the Engineer-in-Charge.
21. The contractor shall make sample of installation using all approved materials, for approval of Engineer-in-charge before commencement of execution of mass scale work.
22. Check nuts shall be provided while terminating the M.S. conduits in switch board boxes for which nothing extra shall be paid.
23. All distribution boards shall be marked with circuits controlling the rooms/area/SDB controlled (preferable PVC Stickers). For noncompliance recovery shall be made @ Rs. 1000/- per DB.
24. Contractor will not provide any ceiling rose/connector/looping box etc. wherever false ceiling is being provided. The point wiring in that case will be extended up to the false ceiling level with suitable size connector and Flexible metal conduit. The wire from the end point up to the fixture shall be considered to be included in the point wiring. Nothing extra shall be paid for the same.
25. In electrical installation, only rigid conduits shall be used. Wherever providing of rigid conduits is not possible, flexible conduit pipe shall be provided for drawing/running the wires. However, such arrangement has to be kept minimum and only with the prior approval of Engineer-in-charge or his authorized representative.
26. Earthing and all items of work that cannot be checked later on are to be got approved from Engineer-in-charge or his authorized representative before proceeding further.
27. The contractor shall follow the shortest route for circuits, sub main, point wiring etc.
28. To facilitate drawing GI fish wire shall be provided along with laying of recessed conduit. Nothing extra shall be paid on this account.

29. All hardware items such as screws, thimbles, connectors, earth / neutral terminals, wires etc. which are essentially required for completing any item as per specifications will be deemed to have been included in the item even when the same have not been specifically mentioned.
30. All hardware material such as nuts / bolts / screws / washers etc. to be used in the work for switches shall be zinc / cadmium plated iron. The galvanized boxes of modular switch / sockets etc. shall be of the same make as of switch / socket etc.
31. All earthing material (plate, strip, wire) should be hot dip galvanized as. All concealed works and earthing shall have to be done in the presence of Engineer-in-Charge or his authorized representative.
32. While laying conduit, suitable minimum number of junction boxes shall be left for pulling the wires. These shall be placed in such a way that the same do not remain noticeable.
33. The ceiling roses wherever required to be provided are included in the scope of work without extra payment and the same shall also be of modular type & of the same make as that of switches & sockets along with earthing provision.
34. The main contractor and his associate has to go through the site order book regularly and has to sign the same by authorized representative and carryout the instructions recorded therein by various officers of the department.
35. **All MCCB for outdoor panels shall have rotating operating handle. For Indoor panel, MCCB above 100 Amp rating shall have rotating operating handle.**
36. **CONTROL PANEL :**
  - i. The power and control panel shall be fabricated out of sheet steel totally enclosed, free standing floor mounted /wall hanging cubicle type and front operated. All connections shall be accessible from the front. It shall be preferably made in cubicle sections, such as incomer, main pump, pressurization pumps and diesel fire pump control etc. so that there is no mix up of power and control wiring and connections in the same sections and as far as possible segregated except where they have to come together on a unit such as relay, contactor etc. Sheet steel used shall not be less than 2.0 mm thick. Front doors shall be hinged type. All indication lamps, Instruments, meters etc. shall be flush mounted in the front.
  - ii. Before manufacturing of electrical panel Contractor will submit the panel drawing to the Engineer-in-charge for approval.
  - iii. All live part of panel shall be well protected from direct contact after opening of panel.
  - iv. Panel should fulfill required IP protection.
  - v. All MCCB compartment will have name plate indicating its rating and space for location name.
  - vi. Earth strip terminal shall be provided on both sides of panels.
37. **Terms & Payment for internal electrical installation /work:**

The following percentage of contract rates for the various items included in the contract shall be payable against the stage of work shown herein.

| Sl. No. | Stage of work                                                                                            | %age of Quoted Rate for Item |
|---------|----------------------------------------------------------------------------------------------------------|------------------------------|
| a)      | On initial inspection of equipments and delivery at Site in good condition on pro-rata basis.            | 60%                          |
| b)      | On completion of pro-rata installation                                                                   | 30%                          |
| c)      | On completion of pro-rata Testing and commissioning and successful taking over by the Department /Client | 10%                          |

**ACCEPTABLE PREFERRED MAKE LIST OF DIFFERENT ITEMS  
(E&M Services)**

**Name of Work: - Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur Project.**

Specification / brands names of materials to be used as per the scope / specifications of work are listed here. The efforts should be made by the agency to use indigenous products (make in India). The agency should also consider the availability of spares parts / components for maintenance purposes while proposing any brand / manufacturer. The materials of any other brand / manufacturer may be proposed for use by the agency in case the brands specified below are not available in the market and / or agency intends to use some other brand better than the brands mentioned in this list. The alternate brand can be used only after the approval of Engineer-in-Charge. The list of approved make for E&M Works is given below :-

| Sl. No. | Description of Items                                                                                             | Makes                                                                          |
|---------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| 1.      | FRLSH PVC insulated copper conductor single core cable 1.1 Kv grade for wiring (ISI marked)                      | Finolex/ RR Kabel/ KEI/ Richa/ Havells/ Polycab                                |
| 2.      | XLPE insulated PVC sheathed Aluminum / Copper conductor Armoured / Unarmoured cable of 1.1 KV grade (ISI marked) | Finolex/ RR Kabel/ KEI/ Richa /Havells / Polycab                               |
| 3.      | MS Conduit (ISI marked) and accessories such as bend, junction boxetc                                            | AKG / BEC/ NIC / RM-CON / VIKAS                                                |
| 4.      | PVC Conduit (ISI marked) (medium class & PVC conduit accessories)                                                | AKG/Norpack/BEC/Polycab/Precision                                              |
| 5.      | MCB, Isolator, Industrial Plug Socket, RCCB, RCBO's                                                              | Schneider Electric/ Legrand / Hager / LK / ABB / Seimens / C&S / BCH           |
| 6.      | MCBDB & Loose Wire Box & accessories                                                                             | Schneider Electric/ Legrand / Hager / LK / ABB / Seimens / C&S / BCH           |
| 7.      | Moulded Case Circuit Breaker (MCCB) Thermal release (Ics=Icu=100%)                                               | Schneider Electric/ Legrand / Hager / LK / ABB / Seimens / C&S / BCH           |
| 8.      | Timer                                                                                                            | Schneider Electric / Legrand / hager / LK / ABB/Seimens / C&S/ Havells.        |
| 9.      | Change Over Switch                                                                                               | LK / Havells / ABB / Hager/ Schneider Electric / BCH                           |
| 10.     | DOL Starter                                                                                                      | LK / Siemens / ABB / Hager/ Schneider Electric                                 |
| 11.     | Automatic Transfer Switch (ATS)                                                                                  | Assco / Russel / Socomac / Hager / ABB / LK/ Schneider Electric / AE / Rishabh |

| S. No. | Item                                                                                                                                                  | Makes                                                                             |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 12.    | Selector Switch & Toggle switch                                                                                                                       | Salzer (LK) / Siemens / Kaycee/ Rishabh/ ABB                                      |
| 13.    | Cable Junction Box                                                                                                                                    | Sintex / HENSEL / Raychem                                                         |
| 14.    | Terminal Blocks and connectors                                                                                                                        | Elmax / Wago / Hensel / Connectwell                                               |
| 15.    | Phenolic Laminated sheet/ Bakelitesheet                                                                                                               | Hylam / Formica (P-I Grade) / Mylam /Greenlam                                     |
| 16.    | Polycarbonate Junction Box/ Enclosure                                                                                                                 | Hensel / Spelsberg / Naptune-Bals/ Sintex                                         |
| 17.    | Modulear Switch, Socket/ Telephone socket / cable TV Socket / Data outlet socket / Fan Regulator / GI Boxes Etc. (Wiring Accessories) Regulators etc. | Crabtree / Honeywell / Schneider Electric / LK.                                   |
| 18.    | Call bell/ Buzzer / Ceiling rose                                                                                                                      | Anchor/ Leader/ Rider / Precision.                                                |
| 19.    | Ammeter & Voltmeter                                                                                                                                   | AE / Rishab / LK / C&S / HPL                                                      |
| 20.    | Conventional / Electronic Digital Meter (A/V/PF/Hz/KW/ KWH)                                                                                           | Conzerv / Larsen &Tourbo / C&S / AE                                               |
| 21.    | LED indicating lamp / Push Button                                                                                                                     | Schneider Electric / LK / Siemens / C&S / Vaishno                                 |
| 22.    | LED bollard light fitting                                                                                                                             | Crompton / Havells/Regent/Trilux/Philips/ Kolors.                                 |
| 23.    | LED Post Top fitting                                                                                                                                  | Crompton model Maple or similar in Havells/ LK / Philips /Regent/Trilux / Kolors. |
| 24.    | LED Flood fitting                                                                                                                                     | Crompton / Philips / Regent/ Trilux / Kolors / Havells.                           |
| 25.    | LED light fittings                                                                                                                                    | Crompton / Havells / Philips/ Trilux / LK / Kolors / Wipro / Bajaj / Regent.      |
| 26.    | G.I. Pipe                                                                                                                                             | Tata / Jindal (Hissar) / Prakash Surya / Utkarsh / Bansal                         |
| 27.    | GI Octagonal Pole, Bracket and accessories                                                                                                            | Utkarsh / Subham / Philips / Bajaj / Skipper.                                     |
| 28.    | Angle Holder/ Batten Holder ( ISI marked )                                                                                                            | Anchor/ Leader/ Rider / Precision.                                                |
| 29.    | Cat 6 Cable, Wires                                                                                                                                    | Legrand / D-link/ Havells/ Siemon / Belden / Systimax                             |
| 30.    | Armoured / Unarmoured Telephone, TV cable, Co-axial cable, Tag Block                                                                                  | Delton/ Finolex/ RR cable/ Havells                                                |
| 31.    | Exhaust fan/ Fresh air fan                                                                                                                            | Crompton / Havells / Orient/ Usha / Bajaj                                         |
| 32.    | Cover plate for junction boxes                                                                                                                        | Hylem / Formica (i.e. white 3 mm thick).                                          |
| 33.    | Raceway /Cable Tray                                                                                                                                   | Honeywell (MK) / Legrand / Schneider / RM-CON                                     |

| S. No. | Item                                                                                                       | Makes                                                                                                                                                                                                       |
|--------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 34.    | Water Cooler cum purifier                                                                                  | Blue Star or similar in Usha / Voltas / Sidwal                                                                                                                                                              |
| 35.    | Constant Voltage Transformer                                                                               | Topaz / Bhurji / Delta                                                                                                                                                                                      |
| 36.    | LT Panel, APFC Panel, Feeder Pillar, Fire Panel (All Panels)                                               | Brahmaputra power & controls / ADLEC / Advance Power & Switchgear / Milestone Switchgears / Tricolite / SPC Electrotech/ Pristine / RP Control / Siddhi Vinayak Power solutions / S.K. Engineering & Works. |
| 37.    | Wall Fan                                                                                                   | Usha – Mist air flow or similar in Crompton /Havells / Orient                                                                                                                                               |
| 38.    | DWC HDPE pipe (ISI Marked)                                                                                 | Duraline / Rex / Supreme / Tirupati / Gemini                                                                                                                                                                |
| 39.    | Cable junction Box                                                                                         | Hensel / Sintex / Cape / Standrad                                                                                                                                                                           |
| 40.    | Cable gland                                                                                                | Hensel / Sintex / Dowell / 3M                                                                                                                                                                               |
| 41.    | MS Swage type Pole & Accessories                                                                           | Subham / RR Ispat / Utkarsh.                                                                                                                                                                                |
| 42.    | GI Octagonal Pole & Accessories                                                                            | Utkarsh / Skiper / Bajaj / RR Ispat                                                                                                                                                                         |
| 43.    | Mono block pump set                                                                                        | Kirloskar / Crompton / KSB / Calama / Grundfoss.                                                                                                                                                            |
| 44.    | Bore well pump set                                                                                         | Kirloskar / Crompton /KSB / Calama / Grundfoss                                                                                                                                                              |
| 45.    | Metal Valves                                                                                               | Kirloskar / Honeywell / Sant / Leader / Zolloto                                                                                                                                                             |
| 46.    | Cable Glands, Lugs                                                                                         | Dowell/Jhonson/Comet/Gripwel                                                                                                                                                                                |
| 47.    | Indoor, Outdoor & straight through joint                                                                   | 3M / Raychem/ M-seal                                                                                                                                                                                        |
| 48.    | Rising Main                                                                                                | Simens / C & S / Legrand / LK                                                                                                                                                                               |
| 49.    | <b>Any other items not mentioned above to be procured with prior approval from the Engineer-in-charge.</b> |                                                                                                                                                                                                             |

**LIST OF PREFERRED MAKES FOR CCTV**

| SL. NO. | ITEM                                      | NAME OF MANUFACTURERS                                                                                             |
|---------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 1       | NETWORK SWITCH                            | CISCO/ AVAYA / JUNIPER / EXTREME / HP                                                                             |
| 2       | CCTV CAMERA                               | HIK VISION / HONEYWELL / BOSCH / MOBOTIX / JORDAN / VICON / TYCO / GANZ / AXIS / PELCO / SONY / CP PLUS / MATRIX. |
| 3       | HDD                                       | SEAGATE / WD / HIK VISION                                                                                         |
| 4       | WIRELESS CONTROLER                        | CISCO / AVAYA/ JUNIPER / EXTREME / HP                                                                             |
| 5       | ACCESS POINT POE                          | CISCO / AVAYA / JUNIPER / EXTREME /HP                                                                             |
| 6       | NVR / KEYBOARD                            | HONEY WELL / BOSCH / SONY / PELCO / SAMSUNG / CP PLUS / MATRIX                                                    |
| 7       | LED TV                                    | SONY / LG / PANASONIC / SAMSUNG                                                                                   |
| 8       | NETWORK RACK                              | RITTAL / PANDUIT-PANNET / SCHNEIDER / VALRACK / MTS / POWER RACK / NETRACK / POWERIDE / CP PLUS / MATRIX.         |
| 9       | CAT 6/CAT5 CABLE                          | LEGRAND / PANDUIT – PANNET / SIEMON / BELDEN / SYSTIMAX / DIGISOL / CP PLUS / HAVELLS.                            |
| 10      | PATCH PANEL /PATCH ORD/RJ45 WITHFACE LATE | LEGRAND / PANDUIT - PANNET / SIEMON /BELDEN / SYSTIMAX                                                            |
| 11      | FIBRE CABLE AND COMPONENT                 | LEGRAND / PANDUIT – PANNET / SIEMON /BELDEN / SYSTIMAX                                                            |
| 12      | FACE PLATE / ADAPTOR PLATE                | LEGRAND / PANDUIT – PANNET / SIEMON / BELDEN                                                                      |
| 13      | WALL MOUNTING CABINETS / CABLE MANAGER    | LEGRAND / EMERSON / PANDUIT / RITTAL / VALRACK                                                                    |
| 14      | SFP MODULE                                | CISCO / AVAYA / HUAWEI / JUNIPER / EXTREME / HP                                                                   |
| 15      | IPPBX                                     | PANASONIC / CISCO / MITEL / ALCATEL / PROGILITY / AVAYA / NEC / CORAL                                             |
| 16      | CCTV STORAGE HDD                          | SAMSUNG / WD / SEAGATE                                                                                            |
| 17      | TELEPHONE                                 | PANASONIC / CISCO / MITEL / ALCATEL / PROGILITY / AVAYA / NEC / SIEMENS                                           |
| 18      | TELEPHONE (DIGITAL)                       | PANASONIC / CISCO / MITEL / ALCATEL / PROGILITY / AVAYA / NEC / SIEMENS                                           |
| 19      | DIGITAL KEY TELEPHONE WITH LCD DISPLAY    | PANASONIC / CISCO / MITEL / ALCATEL / PROGILITY / AVAYA / NEC / SIEMENS                                           |
| 20      | MDF                                       | PANASONIC / CISCO / MITEL / ALCATEL / PROGILITY / AVAYA / NEC                                                     |
| 21      | ANY OTHER ITEM NOT MENTIONED ABOVE        | WITH PRIOR APPROVAL OF THE ENGINEER-IN-CHARGE                                                                     |

Executive Engineer (E)  
CPWD, Agartala

**SCHEDULE OF QUANTITIES****(Electrical Works)**

***Name of work : Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur Project Development of Site & Bulk Services).***

| Sl.No. | Description of Item of works                                                                                                                                                                                                                                                                                                                                           | Quantity |        | Rate    | Unit  | Amount        |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|---------|-------|---------------|
|        | <b>SUB HEAD-I</b>                                                                                                                                                                                                                                                                                                                                                      |          |        |         |       |               |
|        | <b><u>(WIRING)</u></b>                                                                                                                                                                                                                                                                                                                                                 |          |        |         |       |               |
| 1.1    | Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required. |          |        |         |       |               |
| 1.1.1  | Group-A                                                                                                                                                                                                                                                                                                                                                                | 67.00    | Points | 1189.00 | Point | ₹ 79,663.00   |
| 1.1.2  | Group-B                                                                                                                                                                                                                                                                                                                                                                | 45.00    | Points | 1362.00 | Point | ₹ 61,290.00   |
| 1.1.3  | Group-C                                                                                                                                                                                                                                                                                                                                                                | 35.00    | Points | 1704.00 | Point | ₹ 59,640.00   |
| 1.2    | Wiring for light/ power plug with 2X4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/recessed medium class PVC conduit alongwith 1 No. 4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable for loop earthing as required.                                                                                                | 700.00   | Mtrs   | 373.00  | Mtr   | ₹ 2,61,100.00 |
| 1.3    | Wiring for light/ power plug with 4X4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/recessed medium class PVC conduit alongwith 2 Nos. 4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable for loop earthing as required.                                                                                               | 200.00   | Mtrs   | 587.00  | Mtr   | ₹ 1,17,400.00 |
| 1.4    | Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.                                                                                                                                                             |          |        |         |       |               |
| 1.4.1  | 2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire                                                                                                                                                                                                                                                                                                                             | 200.00   | Mtrs   | 267.00  | Mtr   | ₹ 53,400.00   |
| 1.4.2  | 2 X 6 sq. mm + 1 X 6 sq. mm earth wire                                                                                                                                                                                                                                                                                                                                 | 100.00   | Mtrs   | 482.00  | Mtr   | ₹ 48,200.00   |
| 1.4.3  | 2 X 10 sq. mm + 1 X 6 sq. mm earth wire                                                                                                                                                                                                                                                                                                                                | 100.00   | Mtrs   | 621.00  | Mtr   | ₹ 62,100.00   |

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |      |        |      |             |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|--------|------|-------------|
| 1.5   | Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.                                                                                                                                                                                                                                                                                      |        |      |        |      |             |
| 1.5.1 | 20 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 650.00 | Mtrs | 151.00 | Mtr  | ₹ 98,150.00 |
| 1.5.2 | 25 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 80.00  | Mtrs | 168.00 | Mtr  | ₹ 13,440.00 |
| 1.6   | Supplying and drawing following pair 0.5 mm dia FRLS/HFFR PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/recessed steel/ PVC conduit as required.                                                                                                                                                                                                                                                                                                  |        |      |        |      |             |
| 1.6.1 | 2 Pair                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 30.00  | Mtrs | 39.00  | Mtr  | ₹ 1,170.00  |
| 1.7   | Supplying and drawing co-axial TV cable RG-6 grade, 0.7mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/recessed steel/PVC conduit as required                                                                                                                                                                                                                                                             | 150.00 | Mtrs | 54.00  | Mtr  | ₹ 8,100.00  |
| 1.8   | Supplying, drawing, Installation, Testing and commissioning of CAT6 UTP LSZH 23AWG Twisted Pair Cable in existing conduit/ on surface, Category 6 Unshielded Twisted Pair, 4 pair should be complied as per UL/ETL verification program for compliance with ANSI/TIA-568.2-D standard. Outer diameter should be in the range of 6.1mm nominal with Operating Temperature Range : -5° to +60°C. Bending Radius : < 4 X Cable Diameter at -5°C ± 1°C and Pulling Force : 11.5Kg etc. as required |        |      |        |      |             |
| 1.8.1 | 1 run of cable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 80.00  | Mtrs | 60.00  | Mtr  | ₹ 4,800.00  |
| 1.8.2 | 2 run of cable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 30.00  | Mtrs | 96.00  | Mtr  | ₹ 2,880.00  |
| 1.9   | Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.                                                                                                                                                                                                                                                              | 42.00  | Nos  | 545.00 | Each | ₹ 22,890.00 |

|        |                                                                                                                                                                                                                                             |       |     |        |      |             |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|--------|------|-------------|
| 1.10   | Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required. | 37.00 | Nos | 659.00 | Each | ₹ 24,383.00 |
| 1.11   | Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.                                                                                                  |       |     |        |      |             |
| 1.11.1 | 1 or 2 Module (75mmX75mm)                                                                                                                                                                                                                   | 20.00 | Nos | 354.00 | Each | ₹ 7,080.00  |
| 1.11.2 | 6 Module (200mmX75mm)                                                                                                                                                                                                                       | 17.00 | Nos | 462.00 | Each | ₹ 7,854.00  |
| 1.12   | Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.                                                                        |       |     |        |      |             |
| 1.12.1 | 5/6 A switch                                                                                                                                                                                                                                | 17.00 | Nos | 121.00 | Each | ₹ 2,057.00  |
| 1.12.2 | 15/16 A switch                                                                                                                                                                                                                              | 17.00 | Nos | 176.00 | Each | ₹ 2,992.00  |
| 1.12.3 | 3 pin 5/6 A socket outlet                                                                                                                                                                                                                   | 17.00 | Nos | 136.00 | Each | ₹ 2,312.00  |
| 1.12.4 | 6 pin 15/16 A socket outlet                                                                                                                                                                                                                 | 17.00 | Nos | 219.00 | Each | ₹ 3,723.00  |
| 1.12.5 | Telephone socket outlet                                                                                                                                                                                                                     | 3.00  | Nos | 168.00 | Each | ₹ 504.00    |
| 1.12.6 | Tv antenna socket outlet                                                                                                                                                                                                                    | 12.00 | Nos | 168.00 | Each | ₹ 2,016.00  |
| 1.13   | Supplying & fixing of R-J 45 computer socket cat-6 with shutter accessories on the existing modular plate & socket box including connections but excluding modular plate etc. as required.                                                  | 8.00  | Nos | 541.00 | Each | ₹ 4,328.00  |
| 1.14   | Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.                                                                                                                 | 10.00 | Nos | 47.00  | Each | ₹ 470.00    |
| 1.15   | Supplying and fixing call bell/ buzzer suitable for single phase, 230 V, complete as required.                                                                                                                                              | 4.00  | Nos | 112.00 | Each | ₹ 448.00    |

|        | <b><u>(Light fittings &amp; fixtures)</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |      |         |      |             |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|---------|------|-------------|
| 1.16   | Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal( Aluminum alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al body Power Factor not less than 0.9, Service Value (CM/M/W) minimum as below, 350 RPM (tolerance as per IS : 374-2019), THD (Total Harmonic Distortion) less than 10%, suitable for operation with regulator for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Ceiling Fan compliant to IS 374:2019 fan i/c external connection with 1.5 sq. mm FRLS/HFFR,PVC insulated copper conductor single core cable and earthing etc. as required. |       |      |         |      |             |
| 1.16.1 | 1200mm, service value $\geq 6.0$ CM/Min/Watt, air delivery 210 CM/Min (Minimum)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27.00 | Nos  | 2695.00 | Each | ₹ 72,765.00 |
| 1.17   | Supplying, Installation, testing and commissioning of heavy duty metal exhaust fan with louvers of following sizes in the existing opening complete with making hole to suit the the size of above fan as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |      |         |      |             |
| 1.17.1 | 300 m.m Sweep,heavy duty RPM $\geq 900$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4.00  | Nos. | 5372.00 | Each | ₹ 21,488.00 |
| 1.18   | Supplying,Installation,testing,commissioning of fresh air fan with louvers of following sizes in the existing opening including making good the damage, connection, testing, commissioning etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |      |         |      |             |
| 1.18.1 | 250 m.m Sweep, RPM $\geq 1250$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 7.00  | Nos. | 1988.00 | Each | ₹ 13,916.00 |
| 1.19   | LED Batten light (System lumen efficacy $\geq 105$ <120 lm/Watt) Supplying, installation, Testing & Commissioning of LED surface mounted Batten light of following body material and construction as per IS : 10322 with driver (Replaceable) as per the requirement with Driver efficiency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |      |         |      |             |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |     |        |      |             |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|--------|------|-------------|
|        | <p>&gt;85% ,Operating voltage AC 140-270 Volt, freq 50/60 hz, Operating temp range -5 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short &amp; Open circuit protection ,THD &lt; 10% , P. F.≥0.95, IP20, CRI &gt;80, Flicker free, (flicker should be below 5 %), life time (LED,Driver &amp; electrical circuitary), of minimum 50000 Burning Hours with , 70% of initial Lumen maintained till life ends, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin), SDCM(Standard Deviation Color Matching) &lt;3, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard and trade mark certificate (T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c external connections with 1.5 sq mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 &lt;120 lm/Watt output . LM79 &amp; LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body(Thickness &gt; 1.20 mm)</p> |       |     |        |      |             |
| 1.19.1 | 18- 22 watt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 35.00 | Nos | 681.00 | Each | ₹ 23,835.00 |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |     |        |      |             |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|--------|------|-------------|
| 1.20   | LED Down lighter (SMD Type) (System lumen efficacy $\geq 105 < 120\text{lm/Watt}$ ) Supplying, installation, Testing & Commissioning of LED Recessed/ surface Down lighter (Round/ square/ Rectangular) SMD type of following body material with PMMA and prismatic diffuser and construction as per IS :10322 with driver as per the requirement with Driver efficiency $>85\%$ , Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -15 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection, THD $< 10\%$ , P. F. $\geq 0.95$ , IP20, CRI $>80$ , UGR (Unified Glare Rating) $< 19$ , Flicker free (flicker should be below 5%), life time (LED, Driver & electrical circuitary), of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends, CCT 3000°K / 4000°K / 5700°K / 6000°K / 6500°K (As per ANSI Bin), SDCM (Standard Deviation Color Matching) $<3$ , Maximum power consumption should not more than the specified rating and Fixture shall be confirming to relevant BIS standards and trade mark certificate (T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing Complete in all respect i/c connections with 1.5 sq mm FRLS, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy $\geq 105$ and $<120\text{lm/Watt}$ output. LM79 & LM80 Test report from NABL lab for all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminum housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast / Extruded aluminum Body including trim |       |     |        |      |             |
| 1.20.1 | 18 watt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 12.00 | Nos | 920.00 | Each | ₹ 11,040.00 |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |     |         |      |             |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|---------|------|-------------|
| 1.21   | LED Panel light 2x2 ft. (System lumen efficacy $\geq 105 < 120$ lm/Watt) Supplying, installation, Testing & Commissioning of Panel light 2x2 ft., of following body material and construction as per IS : 10322 with driver as per the requirement with Driver efficiency $> 85\%$ , Operating voltage AC 140-270 Volt, freq 50/60 hz, Operating temp range -15 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection, THD $< 10\%$ , P. F. $\geq 0.95$ , IP20, CRI $> 80$ , UGR (Unified Glare Rating) $< 19$ , Flicker free, (flicker should be below 5 %), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with, 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K / 5700°K / 6000°K / 6500°K (As per ANSI Bin), SDCM (Standard Deviation Color Matching) $< 3$ , Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard and trade mark certificate ( T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c connections with 1.5 sq mm FRLS, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy $\geq 105 < 120$ lm/Watt output . LM79 & LM80 Test report from NABL lab for all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminum housing such that LED junction temperature shall not rise above 90°C) Powder Coated CRCA Sheet Body (Thickness $> 0.50$ mm) |       |     |         |      |             |
| 1.21.1 | 36 watt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20.00 | Nos | 2059.00 | Each | ₹ 41,180.00 |

|        |                                                                                                                                                                                                                                                                                                                                                    |       |      |         |      |             |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|---------|------|-------------|
| 1.22   | Supplying & fixing decorative wall light fixture made up of Polycarbonate, suitable for 9 W retrofit LED complete with two pin holder, 9 Watt.LED lamp suitable for 230 volts 50 Hz AC supply directly on Ceiling/wall i/c Connection with 1.5 sq. mm FRLSH/HFFR PVC insulated, copper conductor, single core cable and earthing etc. as required. | 15.00 | Nos  | 1373.00 | Each | ₹ 20,595.00 |
| 1.23   | Supplying & Erection of energy saving surface oval shape mounted,9 to 11 watt, IP 65 LED Bulk head fitting comprising high brightness LEDs suitable for 230 volts 50 Hz AC supply directly on Ceiling/wall i/c Connection with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.                   | 7.00  | Nos  | 1648.00 | Each | ₹ 11,536.00 |
| 1.24   | Supplying and fixing 10 watt LED mirror light with decorative grey end capsAluminum housing & integrated electronic driver suitable for 230 volts 50 Hz AC supply directly on Ceiling/wall i/c Connection with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.                                   | 7.00  | Nos  | 599.00  | Each | ₹ 4,193.00  |
| 1.25   | Supplying and fixing brass batten/ angle two pin holder holder suitable for 9 W retrofit LED complete with two pin holder, 9 Watt.LED lamp suitable for 230 volts 50 Hz AC supply directly on Ceiling/wall i/c Connection with 1.5 sq. mm FRLSH/HFFR PVC insulated, copper conductor, single core cable and earthing etc. as required.             | 7.00  | Each | 267.00  | Each | ₹ 1,869.00  |
| 1.26   | Supplying and fixing 3 pin, 5 A ceiling rose on the existing junction box/ wooden block including connections etc. as required.                                                                                                                                                                                                                    | 73.00 | Nos. | 104.00  | Each | ₹ 7,592.00  |
|        | <b><u>( MCB and distribution boards)</u></b>                                                                                                                                                                                                                                                                                                       |       |      |         |      |             |
| 1.27   | Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)                        |       |      |         |      |             |
| 1.27.1 | 8 way (4 + 24), Double door                                                                                                                                                                                                                                                                                                                        | 2.00  | Nos  | 6337.00 | Each | ₹ 12,674.00 |

|        |                                                                                                                                                                                                                                                                                                                  |      |     |         |      |             |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|---------|------|-------------|
| 1.28   | Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) |      |     |         |      |             |
| 1.28.1 | 8 way, Double door                                                                                                                                                                                                                                                                                               | 1.00 | No  | 2773.00 | Each | ₹ 2,773.00  |
| 1.28.2 | 12 way, Double door                                                                                                                                                                                                                                                                                              | 4.00 | Nos | 2871.00 | Each | ₹ 11,484.00 |
| 1.28.3 | 16 way, Double door                                                                                                                                                                                                                                                                                              | 2.00 | Nos | 3367.00 | Each | ₹ 6,734.00  |
| 1.29   | Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.                                                                                                                                                |      |     |         |      |             |
| 1.29.1 | 40 A                                                                                                                                                                                                                                                                                                             | 7.00 | Nos | 472.00  | Each | ₹ 3,304.00  |
| 1.29.2 | 63 A                                                                                                                                                                                                                                                                                                             | 2.00 | Nos | 569.00  | Each | ₹ 1,138.00  |
| 1.30   | Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.                                                                                                                                                  |      |     |         |      |             |
| 1.30.1 | 63 A                                                                                                                                                                                                                                                                                                             | 2.00 | Nos | 1115.00 | Each | ₹ 2,230.00  |
| 1.31   | Supplying and fixing Cable End Box (Loose Wire Box) suitable for following triple pole and neutral, sheet steel, MCB distribution board, 415 Volts, on surface/ recess, complete with testing and commissioning etc.as required.                                                                                 |      |     |         |      |             |
| 1.31.1 | For 8 way, Double door TPN MCBDB                                                                                                                                                                                                                                                                                 | 2.00 | Nos | 1448.00 | Each | ₹ 2,896.00  |
| 1.32   | Supplying and fixing Cable End Box (Loose Wire Box) suitable for following single pole and neutral, sheet steel, MCB distribution board, 240 Volts, on surface/ recess, complete with testing and commissioning etc. as required.                                                                                |      |     |         |      |             |
| 1.32.1 | For 8 way, Double door SPN MCBDB                                                                                                                                                                                                                                                                                 | 1.00 | No  | 918.00  | Each | ₹ 918.00    |
| 1.32.2 | For 12 way, Double door SPN MCBDB                                                                                                                                                                                                                                                                                | 4.00 | Nos | 1709.00 | Each | ₹ 6,836.00  |
| 1.32.3 | For 16 way, Double door SPN MCBDB                                                                                                                                                                                                                                                                                | 2.00 | Nos | 2295.00 | Each | ₹ 4,590.00  |

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| 1.33   | Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.                                                                                                                                            |        |      |         |      |               |
| 1.33.1 | Single pole                                                                                                                                                                                                                                                                                                                                                                             | 126.00 | Nos  | 285.00  | Each | ₹ 35,910.00   |
| 1.34   | Supplying and fixing following poles and amps rating, 240/415 volts, 10kA "C" curve, miniature circuit breaker suitable for inductive load in the existing MCB DB complete with connections, testing and commissioning etc. as required.                                                                                                                                                |        |      |         |      |               |
| 1.34.1 | 40 A Double Pole                                                                                                                                                                                                                                                                                                                                                                        | 2.00   | N0s  | 1738.00 | Each | ₹ 3,476.00    |
| 1.35   | Supplying & fixing 2 module GI box wih modular plate and cover in front on surface or in recess including providing and fixing 16/20 Amps modular socket outlet including connections, etc. as required.                                                                                                                                                                                | 28.00  | Nos. | 674.00  | Each | ₹ 18,872.00   |
| 1.36   | Supplying & fixing 2 module GI box wih modular plate and cover in front on surface or in recess including providing and fixing 20/25 Amps Motor starter, including connections, etc. as required.                                                                                                                                                                                       | 21.00  | Nos. | 971.00  | Each | ₹ 20,391.00   |
| 1.37   | Supplying & fixing 2 module GI box wih modular plate and cover in front on surface or in recess including providing and fixing 25 Amps "C" curve, SP, modular MCB, including connections, etc. as required.                                                                                                                                                                             | 7.00   | each | 631.00  | Each | ₹ 4,417.00    |
|        | <b><u>(UG Cable Service Connection)</u></b>                                                                                                                                                                                                                                                                                                                                             |        |      |         |      |               |
| 1.38   | Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc.direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc., complete as required. |        |      |         |      |               |
| 1.38.1 | 63 mm dia (OD-63 mm & ID-51 mm nominal)                                                                                                                                                                                                                                                                                                                                                 | 950.00 | Mtrs | 289.00  | Mtrs | ₹ 2,74,550.00 |
| 1.38.2 | 90 mm dia (OD-120 mm & ID-103 mm nominal)                                                                                                                                                                                                                                                                                                                                               | 350.00 | Mtrs | 336.00  | Mtrs | ₹ 1,17,600.00 |

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| 1.39   | Supplying and laying of following sizes PVC insulated and PVC sheathed/ XLPE Armoured UG power cable, working voltage upto & including 1.1 KV grade with alluminium conductor confirming to IS:7098 (part-I) & IS:1554 (Part-I) in the <u>Existing RCC/GI/DWC Pipe</u> and ammended upto date in following way including Connection, testing etc. as required.        |        |      |         |      |               |
| 1.39.1 | 3.5C X 95 sq. mm                                                                                                                                                                                                                                                                                                                                                      | 350.00 | Mtrs | 1601.00 | Mtrs | ₹ 5,60,350.00 |
| 1.39.2 | 3.5C X 70 sq. mm                                                                                                                                                                                                                                                                                                                                                      | 350.00 | Mtrs | 1275.00 | Mtrs | ₹ 4,46,250.00 |
| 1.39.3 | 3C X 16 sq. mm                                                                                                                                                                                                                                                                                                                                                        | 600.00 | Mtrs | 404.00  | Mtrs | ₹ 2,42,400.00 |
| 1.40   | Supplying and laying of following sizes PVC insulated and PVC sheathed/ XLPE Armoured UG power cable, working voltage upto & including 1.1 KV grade with alluminium conductor confirming to IS:7098 (part-I) & IS:1554 (Part-I) in <u>Open Duct</u> (for connection & looping) and ammended upto date including Connection,testing etc. in following way as required. |        |      |         |      |               |
| 1.40.1 | 3.5C X 95 sq. mm                                                                                                                                                                                                                                                                                                                                                      | 5.00   | Mtrs | 1591.00 | Mtrs | ₹ 7,955.00    |
| 1.40.2 | 3.5C X 70 sq. mm                                                                                                                                                                                                                                                                                                                                                      | 5.00   | Mtrs | 1265.00 | Mtrs | ₹ 6,325.00    |
| 1.40.3 | 3C X 16 sq. mm                                                                                                                                                                                                                                                                                                                                                        | 20.00  | Mtrs | 396.00  | Mtrs | ₹ 7,920.00    |
| 1.41   | Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.                                                                                                                                                               |        |      |         |      |               |
| 1.41.1 | 3.5C X 95 sq. mm(45 mm)                                                                                                                                                                                                                                                                                                                                               | 2.00   | Nos  | 684.00  | Each | ₹ 1,368.00    |
| 1.41.2 | 3.5C X 70 sq. mm(38 mm)                                                                                                                                                                                                                                                                                                                                               | 2.00   | Nos  | 542.00  | Each | ₹ 1,084.00    |
| 1.41.3 | 3C X 16 sq. mm(25 mm)                                                                                                                                                                                                                                                                                                                                                 | 20.00  | Nos  | 326.00  | Each | ₹ 6,520.00    |
|        | <b><u>SH:- ( Earthing)</u></b>                                                                                                                                                                                                                                                                                                                                        |        |      |         |      |               |
| 1.42   | Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.                                                                                                                                           | 6.00   | Set. | 7658.00 | Set  | ₹ 45,948.00   |
| 1.43   | Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.                                                                                                                                                                         | 18.00  | Mtr  | 755.00  | Mtr. | ₹ 13,590.00   |
| 1.44   | Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.                                                                                                                                                                                                                                                                | 30.00  | Mtr  | 287.00  | Mtr. | ₹ 8,610.00    |

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|      | <b>(Lightning Conductor)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |      |         |      |             |
| 1.45 | Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.00   | set  | 8351.00 | each | ₹ 50,106.00 |
| 1.46 | Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 6.00   | Nos. | 609.00  | Each | ₹ 3,654.00  |
| 1.47 | Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 120.00 | Mtrs | 148.00  | Mtr. | ₹ 17,760.00 |
| 1.48 | Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 70.00  | Mtrs | 238.00  | Mtr. | ₹ 16,660.00 |
| 1.49 | Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.00   | Nos. | 140.00  | Each | ₹ 840.00    |
| 1.50 | Providing and laying G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30.00  | Mtrs | 221.00  | Mtr. | ₹ 6,630.00  |
|      | <b>(LT Panel )</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |      |         |      |             |
| 1.51 | Supplying, installation, testing & commissioning of outdoor cubicle type LT panel suitable for 415V, 3 Phase, 4 Wire 50 Hz Ac supply system, fabricated in compartmentalized (preferably) design (each compartment should not be less than 350X350Sq. mm.) and depth should not be less than 450mm deep (Nominal size) from CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland, plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 200A capacity extensible type TPN aluminium alloy bus bars of high conductivity, DMC/SMC bus bar supports, fabrication shall be done in transportable sections, entire panel shall have a common copper earth |        |      |         |      |             |

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|  | bar of size 20mm x 3mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 2.5 sq. mm. FRLSH/HFFR PVC insulated copper conductor S/C cable, cable alleys, cable gland plates in two half. The feeder panel to be mounted on 40mm x 40mm x 5mm angle iron base frame having legs each of length not less than 700 mm for mounting purpose and making feeder pillar base foundation of depth min. 300 mm with CC 1:3:6 and brick masonry upto 400 mm for raising the base foundation i/c providing following switch gears (Panel shall be fabricated by a CPRI approved fabricator and shall be approved by Engineer in charge before fabrication) (Panel Size- 1100x1600x400 mm) (Office Feeder Pillar) |  |  |  |  |  |
|  | <b>(i) Incoming:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |  |  |
|  | a) 125 Amp 25 KA FP MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 01 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |  |  |
|  | a) 100 Amp 25 KA FP MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 01 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |  |  |
|  | b) 125 Amp, FP ON Load Change over switch with operating handle kit - 1 No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  |  |  |
|  | <b>(ii) Bus Bar</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |
|  | (a) Aluminium alloy bus bar chamber (considering the current density of Aluminium 1.3 Amp/Sq.mm.) of rating 200 Amp, 4 pole at 415 V, duly PVC sleeved - 1 Set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |  |  |
|  | <b>(iii) Outgoing:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |  |  |
|  | a) 100 Amp 25 KA TP 415 Volt MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 01 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |  |  |
|  | a) 80 Amp 25 KA TP 415 Volt MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 01 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |

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|      | a) 63 Amp 25 KA TP 415 Volt MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 01 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |     |           |     |               |
|      | b) 40 Amp 25 KA TP 415 Volt MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 02 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |     |           |     |               |
|      | c) Spare space for 1 MCCB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |           |     |               |
|      | d) LED multi function meter for measuring voltage, Current, frequency, Power factor. - 1 set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |     |           |     |               |
|      | e) CT Coil=3 Nos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |     |           |     |               |
|      | f) Danger Notice Plate - 01 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |     |           |     |               |
|      | g) 2A C Curve SP MCB - 03 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |     |           |     |               |
|      | h) LED indicating lamp with toggle switch & backup MCB's - 03 Nos.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.00 | Job | 239674.00 | Job | ₹ 2,39,674.00 |
| 1.52 | Supplying, installation, testing & commissioning of outdoor cubicle type LT panel suitable for 415V, 3 Phase, 4 Wire 50 Hz Ac supply system, fabricated in compartmentalized (preferably) design (each compartment should not be less than 350X350 Sq. mm.) and depth should not be less than 450mm deep (Nominal size) from CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland, plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 200A capacity extensible type TPN aluminium alloy bus bars of high conductivity, DMC/SMC bus bar supports, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 20mm x 3mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 2.5 sq. mm. FRLSH/HFFR PVC insulated copper conductor S/C cable, cable alleys, cable gland plates in two half. The feeder panel to be mounted on 40mm x 40mm x 5mm angle iron base frame having legs each of length not less than 700 mm for mounting purpose and making feeder pillar base foundation of depth min. 300 mm with CC 1:3:6 and brick masonry |      |     |           |     |               |

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|  | upto 400 mm for raising the base foundation i/c providing following switch gears(Panel shall be fabricated by a CPRI approved fabricator and shall be approved by Engineer in charge before fabrication) (Panel Size-1100 x 1600 x 400 mm) (Office Feeder Pillar) |      |     |           |     |               |
|  | <b>(i) Incoming:</b>                                                                                                                                                                                                                                              |      |     |           |     |               |
|  | a) 125 Amp 25 KA FP MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 01 No.                                                                                                                                                         |      |     |           |     |               |
|  | <b>(ii) Bus Bar</b>                                                                                                                                                                                                                                               |      |     |           |     |               |
|  | (a) Aluminium alloy bus bar chamber (considering the current density of Aluminium 1.3 Amp/Sq.mm.) of rating 200 Amp, 4 pole at 415 V, duly PVC sleeved - 1 Set.                                                                                                   |      |     |           |     |               |
|  | <b>(iii) Outgoing:</b>                                                                                                                                                                                                                                            |      |     |           |     |               |
|  | a)100 Amp 25 KA TP 415 Volt MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 01 No.                                                                                                                                                 |      |     |           |     |               |
|  | a)80 Amp 25 KA TP 415 Volt MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 01 No.                                                                                                                                                  |      |     |           |     |               |
|  | a)63 Amp 25 KA TP 415 Volt MCCB with thermal magnetic releases with Rotary Handle and spreader terminal - 01 No.                                                                                                                                                  |      |     |           |     |               |
|  | b)40 Amp 25 KA TP 415 Volt MCCB with thermal magnetic releaseswith Rotary Handle and spreader terminal - 02 No.                                                                                                                                                   |      |     |           |     |               |
|  | c) Spare space for 1 MCCB                                                                                                                                                                                                                                         |      |     |           |     |               |
|  | d) LED multi function meter for measuring vottage, Current, frequency, Power factor. - 1set                                                                                                                                                                       |      |     |           |     |               |
|  | e) CT Coil=3 Nos                                                                                                                                                                                                                                                  |      |     |           |     |               |
|  | f) Danger Notice Plate - 01 No.                                                                                                                                                                                                                                   |      |     |           |     |               |
|  | g) 2A C Curve SP MCB - 03 No.                                                                                                                                                                                                                                     |      |     |           |     |               |
|  | h) LED indicating lamp with togel switch & backup MCB's - 03 Nos.                                                                                                                                                                                                 | 1.00 | Job | 210141.00 | Job | ₹ 2,10,141.00 |

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| 1.53 | Supplying, installation, testing & commissioning of Wall mounted cubicle type Metering panel suitable for 415V, 3 Phase, 4 Wire 50 Hz Ac supply system, fabricated in compartmentalized (preferably) design (each compartment should not be less than 300X300Sq. mm.) and depth should not be less than 350mm deep (Nominal size), r, from CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland, plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 125 A capacity extensible type TPN aluminium alloy bus bars of high conductivity, DMC/SMC bus bar supports, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 20mm x 3mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 2.5 sq. mm. FRLSH/HFFR PVC insulated coppr conductor S/C cable, cable alleys, cable gland plates in two half. i/c providing and fixing following switch gears including provision of spcace for 1 no. 3 phase energy meter and 3 nos single phase energy mete in it etc. as required.( Panel for Type-II, Type-IV Qtrs building) (Panel shall be fabricated by a CPRI approved fabricator and shall be approved by Engineer in charge before fabrication) |  |  |  |  |  |
|      | <b>(1) Incoming:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |  |  |
|      | 1.1) 01 No 100Amp rating, 415 Volt, 25 KA, Ics= 100% Icu, Four Pole, MCCB with thermal magnetic release range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |
|      | <b>(2) Bus Bar</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |  |  |
|      | (2.1) Aluminium alloy bus bar chamber (considering the current density of Aluminium 1.3 Amp/Sq.mm.) of rating 125 Amp, 4 pole at 415 V, duly PVC sleeved - 1 Set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |

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|        | <b>(3) Outgoing:</b>                                                                                                                                                                                                                                                                                                                    |       |      |           |      |               |
|        | (3.1) 63 amp four pole C curve MCB - 1 No.                                                                                                                                                                                                                                                                                              |       |      |           |      |               |
|        | (3.2) 40 Amps DP 'C'-Curve MCB - -- 03 Nos.                                                                                                                                                                                                                                                                                             |       |      |           |      |               |
|        | 3.3) Terminal blocks for connection - 04 nos                                                                                                                                                                                                                                                                                            |       |      |           |      |               |
|        | 3.4) Danger Notice plate of size 200 mm x 150 mm x 2 mm thick - 1 No                                                                                                                                                                                                                                                                    | 1.00  | Job  | 112393.00 | Job  | ₹ 1,12,393.00 |
|        | <b>( Water Pump Set)</b>                                                                                                                                                                                                                                                                                                                |       |      |           |      |               |
| 1.54   | Supplying, Installation, Testing and commissioning of 5 H.P capacity,2920 RPM Openwell Submersible pumping set having Suction Size 80 mm & Delivery Size 65 mm suitable for 3 phase,415 volt,50Hz, AC supply capable of delivering 13 LPS at total head of 20 Mtr. suitable for openwell sump i/c Connection etc. complete as required. | 2.00  | Nos  | 39857.00  | Each | ₹ 79,714.00   |
| 1.55   | Supplying and fixing 3 core 6 sq.mm flat submersible cables with bare copper conductor insulated and sheathed with PVC for submersible pump motor with on existing wall/ tray/in pipe from pump motor to panel i/c making crimped termination etc complete as required.                                                                 | 40.00 | Mtrs | 291.00    | Mtr  | ₹ 11,640.00   |
| 1.56   | Providing,laying and fixing following dia G.I. pipe (Medium Class) complete with G.I. fittings for connection from delivery side of pump to Header of the Pump i/c Connection etc. complete as required..                                                                                                                               |       |      |           |      |               |
| 1.56.1 | 65 mm                                                                                                                                                                                                                                                                                                                                   | 20.00 | Mtrs | 1060.00   | Mtr  | ₹ 21,200.00   |
| 1.57   | Providing & fixing Gun Metal Gate Valve with C.I wheel of approved quality.(screwed end).                                                                                                                                                                                                                                               |       |      |           |      |               |
| 1.57.1 | 65 mm nominal bore                                                                                                                                                                                                                                                                                                                      | 3.00  | Nos  | 1490.70   | Each | ₹ 4,472.00    |
| 1.58   | Providing & fixing Gun Metal Non-Return Valve of approved quality.(screwed end).                                                                                                                                                                                                                                                        |       |      |           |      |               |
| 1.58.1 | 65 mm nominal bore Horizontal                                                                                                                                                                                                                                                                                                           | 2.00  | Nos  | 2093.80   | Each | ₹ 4,188.00    |

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| 1.59 | Supplying, installation, testing & commissioning of Outdoor cubicle type LT panel floor cum wall mounted suitable for 415V, 3 Phase, 4 Wire 50 Hz Ac supply system, fabricated in compartmentalized (preferably) design (each compartment should not be less than 350X350 Sq. mm.) and depth should not be less than 350mm deep (Nominal size) from CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland, plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 100 A capacity extensible type TPN aluminium alloy bus bars of high conductivity, DMC/SMC bus bar supports, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 20mm x 3mm at the rear with 2 Nos. earth stud, and control wiring with 1.5 sq. mm. FRLSH/HFFR PVC insulated copper conductor S/C cable, cable alleys, cable gland plates in two half. The feeder panel to be mounted on 40mm x 40mm x 5mm angle iron base frame having 4 legs at corner and making base foundation with CC 1:3:6 including following switchgear there-in etc as reqd. (Panel shall be fabricated by a CPRI approved fabricator and shall be approved by Engineer in charge before fabrication) :- (Pump panel) |  |  |  |  |  |
|      | (1) Incoming:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |  |
|      | 1.1) 01 No 63 Amp rating, 415 Volt, 25 KA, Ics= 100% Icu, Four Pole, MCCB with suitable Extended Rotatory handle and spreader terminals etc as reqd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |
|      | 1.2) Flush mounting 3Ph Voltmeter CI 1 having inbuilt selector switch.- 01 Nos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |  |
|      | 1.3) LED indicating lamp(RYB) with backup MCB's - 03 Nos.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |  |  |
|      | (2) Bus Bar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  |  |  |
|      | (2.1) Aluminium alloy bus bar chamber (considering the current density of Aluminium 1.3 Amp/Sq.mm.) of rating 100 Amp, 4 pole at 415 V, duly PVC sleeved - 1 Set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |

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|      | (3) Outgoing:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |     |          |      |               |
|      | 3.1) 02 No 40 Amps TP "C" curve MCB 15 KA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |     |          |      |               |
|      | 3.2) 5 H.P.Three phase DOL Starter Overload Relay Range-12-18 A with single phase preventor - 02 Nos.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |     |          |      |               |
|      | 3.3) Flush mounting 3Ph Ammeter CI 1 having inbuilt selector switch.- 01 Nos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |     |          |      |               |
|      | 3.4) 100 / 5A, CT - 1 Set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |     |          |      |               |
|      | 3.5) 2A C Curve SP MCB - 03 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |     |          |      |               |
|      | 3.6) Danger Notice plate - 1 No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.00  | Job | 76896.00 | Each | ₹ 76,896.00   |
|      | <b><u>( Fire extinguisher)</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |     |          |      |               |
| 1.60 | S.I.T.C. Of ISI marked ABC stored pressure type fire extinguisher of 6 kg capacity ISI marked conforming to IS 15686-2006 with IS 4308, ISI marked ABC powder complete with squeeze grip release valve, discharge valve, discharge pipe, locking arrangement, pressure gauge, operation manual and bracket etc. as reqd.                                                                                                                                                                                                                                                                                                                                                                                                       | 12.00 | Nos | 3833.00  | Each | ₹ 45,996.00   |
| 1.61 | S.I.T.C. Of ISI marked CO2 gas type fire extinguisher of 4.5 kg capacity confirming to IS:15683 made from seamless cylinder complete with delivery hose horn, wheel type release valve, locking arrangement, operation manual and bracket etc. as reqd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 12.00 | Nos | 10131.00 | Each | ₹ 1,21,572.00 |
|      | <b><u>SH:- (Street Light Pole, Timer panel &amp; Fittings)</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |     |          |      |               |
| 1.62 | Supplying, installation, Testing & Commissioning of Street light LED fixture powder coated pressure die cast aluminum body with driver as per the requirement with Driver efficiency >85%, Input voltage: 140-270 Volt AC, freq 50/60 hz, Operating temp range -15 deg to 50 deg centigrade, internal surge protection of 5 KV L,N,E as per IEC 61000-4-5, Driver efficiency >85%, THD < 10% as per IEC 61000-3-2, P. F. ≥ 0.95, IP66, IK-10, CRI >80, under voltage and over voltage protection, EMI/EMC As per CISPR -15, lenses for beam angle as per IESNA type I/II/III as per the width of the road and the project requirement., suitable to fit in up to 65mm dia pipe, life time (LED, Driver & electrical circuitry) |       |     |          |      |               |

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|        | of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K/ 5700°K /6000°K/6500°K (As per ANSI Bin),SDCM(Standard Deviation Color Matching) <5, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard complete in all respect i/c connections with 1.5 sq mm FRLSH/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy $\geq 105$ <120 lm/Watt output . LM79 & LM80 Test report from NABL lab for all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminum housing such that LED junction temperature shall not rise above 90°C).                        |       |      |          |      |               |
| 1.62.1 | 72 watt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20.00 | Nos. | 1920.00  | each | ₹ 38,400.00   |
| 1.63   | Supplying and erection of 6 Mtr. Long GI Octogonal Pole having bottom dia.130 mm and top dia 70 mm made out of 3mm thick HT Steel Sheet having base plate of size 200mm x200mm x 12mm, with single arm bracket of size 1.0 mtr. Long having top dia 70mm for mounting on the pole top,foundation bolts of 600 mm length with 4 no. of bolts , M16 I/c connection with 1.5 sq,mm FRLSH/HFFR copper conductor single core cable from MCB in junction box to fitting,sleek junction box with one No.6 Amp SP MCB and suitable size stud type connector & having hinged cover with locking arrangement etc.including position cement concrete 1:2:4 (1 cement:2 coarse sand :4 graded stone of 20 mm nominal size ) pole foundation of size 400mm x 400mm x1100 mm depth etc.,i/c excavation, surface finishing (plastering & painting ) / Steel reinforcement & providing 50mm (O.D)DWC, HPDE Pipe for cable entry & exit etc .complete as required. | 20.00 | Nos. | 23019.00 | each | ₹ 4,60,380.00 |

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| 1.64 | SITC of 6 kW ,single phase Astronomical street light timer panel with 32 A TP contactor rating and inbuilt short circuit protection conforming to IS/IEC 61439 & 60529 complete including C.C foundation with suitable MS angle frame with legs in each corner of 500 mm long etc complete as reqd at site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.00  | Nos. | 28874.00 | each | ₹ 28,874.00   |
| 1.65 | Provision of 35 Watt LED Post top fitting with pressure die cast aluminium housing having minimum output of 3500 lumen,and IP65 protection having System Efficacy $\geq 100$ lumens/watt; CRI $\geq 70$ ; Colour Temperature = 5200 - 6500 (as required) complete with driver i/c connection, testing and commissioning etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 15.00 | Nos. | 8190.00  | each | ₹ 1,22,850.00 |
| 1.66 | Supplying and erection of 4.0 Mtr. Long GI Pole "Medium( B class)" having dia 65 mm made out of minimum 3 mm thick GI Sheet having CI base plate of size 200 mm x200mm x 3mm, with suitable arrangement for mounting post top fitting on pole top and foundation bolts of suitable length, connection with 1.5 sq.mm FRLS copper conductor single core cable from MCB in junction box to fitting includingin cement concrete 1:3:6 ( 1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) including providing 0.4mtr dia x 0.5mtr height cement concrete collar foundation including excavation and refilling complete with Painting with aluminium paint of approved brand and manufacture to give an even shade with two or more coats on new work of superior quality etc. as required. | 15.00 | Nos  | 6320.00  | Each | ₹ 94,800.00   |

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| 1.67 | Supply and fixing of IP 65 loop out box of size 130 x 180 x 77 mm (Cable Size= 4-10 sq. mm) made out of PVC thermo plastic shock proof box, and locking arrangement I/c supplying and fixing the following accessories drilling holes, connections, earthing, along with suitable MS clamp of size 25mm x 3mm, aluminium painted flat iron strip for fixing the box on the pole including testing and commissioning etc, complete as required<br>1.1) 6 Amps, (C-series) SP MCB -- 1 No.<br>1.2) 16 Amps capacity, 4 Way connector with suitable insulators and DIN channel -- 1 No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 15.00 | Nos | 2702.00 | Each | ₹ 40,530.00 |
| 1.68 | Supplying and making end termination with threaded cable gland IP68 made of polymide with lock nut of sealing range (17-25) mm with sealing ring complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 25.00 | Nos | 315.00  | Each | ₹ 7,875.00  |
|      | <b><u>SUB HEAD-II (Air Conditioning)</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |     |         |      |             |
| 2.1  | Supplying , Installation, Testing and Commissioning of Air Cooled Hi Wall split type Air conditioners complete with Indoor unit(IDU), Out door unit (ODU), surface / concealed copper Refrigerant piping with insulation (closed cell elastomeric nitrile rubber tubular pipe section) upto 3 Mtr (IDU to ODU), copper power cable upto 3.5 Mtr (IDU to ODU) i/c drain pipe R-32/R-410/ R-407 Green Refrigerant, wireless Remote control, suitable for working between 180- 260V with low & high voltage cutoff and 50 hz ,1 phase AC supply capable of performing cooling, dehumidification, air circulation of following capacity with Scroll / rotary compressor. The system shall be able to deliver 100% of the rated capacity upto 42 0C. Min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB). Must comply : Electrical cable IS 694 or IS 9968 temperature sensing control IS / International Electrotechnical Commission (IEC) 60730, hermetic compressor IS 10617, heat exchanger IS 11329, |       |     |         |      |             |

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|       | capacitor IS 2993 and motor IS 12615. Complete as per CPWD specification and IS : 1391 Part II 2023. The system shall be able to operate up to 50 0C (out door ambient temperature).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |     |          |      |               |
| 2.1.1 | 1.5 TR with 5 Star BEE Rating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8.00 | Nos | 43539.00 | Each | ₹ 3,48,312.00 |
|       | <b>SUB HEAD-III (CCTV )</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |          |      |               |
| 3.1   | <p>Supplying Installation Testing and Commissioning of 4MP IP IR Outdoor Bullet Camera having following specifications and features etc :-</p> <p>1) Signal System: PAL/NTSC, Signal to Noise Ratio: &gt; 50 dB, Camera should display Camera title, Date &amp; Time in live &amp; recorded video</p> <p>2) Image Sensor: 1/2.8" or better progressive Scan CMOS get color image even at night condition (Minimum Illumination: 0.006 Lux@ F1.4, AGC ON, 0 lux with IR or better) True Day &amp; Night High Performance Mechanical IR cut filter with auto switch, Integrated IR Source (Auto, Manual)- Inbuilt IR LED's with effective distance upto 50 meter or better and 30 meter for colour view in night, Imaging: 1/3s to 1/30000s electronic shutter support, Auto Gain Control , White Balance- Auto, Back Light Compensation, Multi zone Privacy Masking, HLC, Digital Watermarking.</p> <p>3) Compression (Minimum): Video:- H.265 or better, H.265, H.264H, H.264, Audio:- G.711U/A, G.711Mu, G.726, AAC, G.723</p> <p>4) Wide Dynamic Range:- WDR (120db or more)</p> <p>5) Digital Noise Reduction:- DNR (3D) On/Off</p> <p>6) Video Streaming &amp; Frame Rates :- Triple streaming, configurable Main stream: 4MP (2560×1440) 25/30fps Sub streams minimum: 720P@ 25/30 fps</p> <p>7) Image Setting: Rotate Mode, saturation, brightness, contrast, sharpness adjustable through client software or web browser, Edge Analytics: Tripwire, Intrusion, Motion Detection</p> <p>8) Cyber Security: AES 256-bit Encryption, Configuration</p> |      |     |          |      |               |

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|       | encryption, trusted execution, Digest, security logs, account lockout, video encryption, IP/MAC filtering, HTTPS, trusted upgrade<br>9) Onboard Storage: Camera should support built-in Micro SD/ SDHC/ SDXC Card slot upto 512 GB. It should be supplied with minimum 128GB memory Card.                                                                                                                                                                                                                                                                                                                                                       |      |     |          |      |               |
|       | 10) Recording Management: Format SD, overwrite, storage management, video to NAS device, 11) Alarm Trigger : Motion/tampering detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection<br>12) Network Protocol: SFTP, IPv6, IPv4, DNS, RTCP, NTP, RTP, HTTP, HTTPS, SNMP TCP/IP, PPPoE, NFS, UDP, ICMP, SSL, DHCP, SMTP, RTSPS, unicast, 13) System Capability: ONVIF, Camera shall support open source VMS14) Ethernet: 1 RJ 45 10/100 Ethernet port15) Audio : It should support 1 x Built-In Mic and 1/1 Alarm In/ Out for External Mic. and Speakers as per site requirement. |      |     |          |      |               |
|       | 16) Power Input: The camera should support simultaneous dual power input—12 VDC (via power adapter) and PoE (802.3af)—to ensure continuous operation in the event of a failure in one power source.<br>17) Power Requirement: 12VDC/24 VDC/PoE (802.3af)/ePoE<br>18) Housing/ Enclosure:- IP67 weather proof, IK10, Metallic body<br>19) Operating Condition:- Ambient Temperature:- (- )05°C to 50°C, humidity 95% (max) (non condensing)<br>20) IR life: 40000 hours or higher<br>21) Video Bit rate: 32 KBPS - 8 MBPS or better<br>22) Standards: BIS with ER, STQC Certified, CE, FCC and RoHS                                              |      |     |          |      |               |
| 3.1.1 | 4MP @ 25/30fps@1440P (2560x1440) Outdoor Bullet Camera with 2.7mm ~13.5mm Motorized lens, Vari Focal (view Angle for H: 97°-28°; V: 52°-16°; D: 117°-32°)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 6.00 | Nos | 23754.00 | Each | ₹ 1,42,524.00 |
| 3.2   | Supplying Installation Testing and Commissioning of following Channel Network Video Recorder                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |          |      |               |

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|  | <p>(NVR) with camera licenses to record for all channels having specifications and features etc as mentioned below :</p> <p>1) Network Video Recorder Embedded/ Installed OS (Linux) along with Camera Licenses for number of channels of NVR to record per NVR and to provide a live view, storage and simultaneously Multi-channel playback of all IP, IR camera or more and must be ONVIF with minimum support of 256Mbps incoming Bandwidth.</p> <p>2) NVR should support H.265 or better, H.264, MJPEG, MPEG4 support</p> <p>3) Must support 1 channel Input, 1 channel Output, RCA for Two-way Talk</p> <p>4) Intelligent auto power on when power resumes after power outage.</p> <p>5) Storage: It should support minimum 2 SATA Slots with 20TB capacity/ Slot.</p> <p>6) Connectivity Interface : 1 Nos. x 10/100/1000 Mbps Ethernet Ports, 1x RS485, 1x RS232</p> <p>7) Backup Interface : Its should have 2 Nos USB port (1x USB3.0, 1xUSB2.0)</p> <p>8) Video Output Ports: 1x HDMI and 1 VGA</p> <p>9) Alarm Ports: It should have 4/1 Ch In/ Out ports to connect various type of external sensors and output devices like hooter/ Siren etc.</p> <p>10) Email &amp; SMS Alert options: Option for SMS/ Email Alerts to minimum 5 designated mobile number for power failure, HDD failure, vandalism, tempering, network disconnection and panic</p> <p>11) Web &amp; Mobile Application: Web, Mobile app (For iPhone, iPad, Android Phone) for alerts and viewing.</p> <p>12) Protocols: HTTP, HTTPS, TCP/IP, IPv4, UDP, NTP, DHCP, DNS, SMTP, UPnP, DDNS, Alarm Server, IP Search, Multicast, Auto Registration, ONVIF 21.12 (Profile T, Profile S, Profile G), CGI, SDK and OEM Cloud for remote monitoring without any public IP need.</p> |  |  |  |  |  |
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|  | <p>13) Standards: CE, FCC, RoHS and BIS Certified</p> <p>14) Power Supply : Should support 12VDC, 4Amp or AC100-240V, 50/60Hz Power supply.</p> <p>15) Operating Condition : Ambient Temperature (-5°C to 50°C), humidity 90% (max) (non-condensing)</p> <p>16) The VMS, NVR application shall support all the features &amp; functionalities of the offered cameras.</p> <p>17) VMS should consist of Base license and Channel Licenses. VMS should be provided with camera Licenses , with no dependency of VMS licenses by binding with the MAC address of the cameras to achieve the functionality.</p> <p>18) The NVR OEM shall be responsible for providing a mobile application compatible with both Android and iOS devices, enabling remote monitoring and playback of cameras/NVR footage.</p> <p>19) The OEM must provide its own DDNS server hosted in India, eliminating the need for a public IP address for remote monitoring over the Internet.</p> <p>20) Must support Resolution: 7680x4320 (8K), 3840*2160, 1920x1080, 1280x1024, 1280x720, 1024x768</p> |  |  |  |  |  |
|  | <p>21) Must support recording resolution upto 32MP</p> <p>22) Must support Continuous, Alarm, Motion, Instant, Panic Recording Mode</p> <p>23) When alarm recording is enabled and an event occurs, you can click the alarm icon on monitoring page to view the alert details. The snapshot function is supported on monitoring and playback page</p> <p>24) The Network Video Recorder (NVR) shall be configured to send email whenever a system message is created or an alarm event occurs. The email server shall be a valid SMTP server. Each recipient email address shall be configured to receive any combination of critical, warning, or informational messages or alarm notifications. When an</p>                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |  |

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| <p>alarm occurs, the email message includes the NVR name, time of alarm and a list of camera that is configured to record upon alarm</p> <p>25) It should support Network Support: HTTP, TCP/IP, SMTP, DHCP, DNS, DDNS, FTP, NTP, UPnP, Multi IP Setting. Convert multiple recording files to one avi/MP4 file.</p> <p>26) General AI Based Search: Search Pictures by channel, time, event type, target classification (Fall Detection, People Approach Detection, People No. Exception Detection, People Staying Detection, Violence Detection.</p> <p>27) Alarm Notifications based on: Motion detection, video tampering, video loss, scene changing, PIR alarm, Camera external alarm, Face detection, face recognition, perimeter protection (intrusion and tripwire), ANPR, people counting, stereo analysis, crowd distribution, heat map, Disk Full, Storage Error, IP Conflict and abnormal behaviour of fan</p> <p>28) Alarm Notification should be linked with Recording, snapshots, Camera external alarm output, buzzer, logs, pre-sets and email.</p> <p>29) Built-In Artificial Intelligence: NVR should have built-in AI :- - 2 Channel face detection and recognition, - Minimum 4 Channel perimeter protection, - Minimum 8 Channel Smart Motion Detection</p> <p>30) Face Recognition Database Capacity: It should support total Blacklist and Whitelist capacity of Minimum 20,000 Faces or more with Face Detection speed of 12 face images/sec.</p> <p>31) Face &amp; Human Attributes Search: Search Pictures/ Video by Gender, age group, glasses, expressions, face mask, beard, Top color, top type, hat, bag, age, gender and umbrella.</p> <p>32) ANPR Capability: It should support ANPR Camera with License plate, plate color, vehicle body, vehicle model, vehicle logo, calling, seatbelt, vehicle registration location etc vehicle attributes.</p> <p>33) Alarm Notifications based on:</p> |  |  |  |  |  |
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|       | <p>Motion detection, video tampering, video loss, scene changing, PIR alarm, Camera external alarm, Face detection, face recognition, perimeter protection (intrusion and tripwire), ANPR, people counting, stereo analysis, crowd distribution, heat map, Disk Full, Storage Error, IP Conflict and abnormal behaviour of fan, cybersecurity exception</p> <p>34) Alarm Notification should be linked with Recording, snapshots, Camera external alarm output, buzzer, logs, pre-sets and email.</p> <p>35) General AI Based Search: Search Pictures by channel, time, event type, target classification (Fall Detection, People Approach Detection, People No. Exception Detection, People Staying Detection, Violence Detection.</p> <p>36) Smart playback function: Should support smart search for the selected area in the video and smart playback to improve the playback efficiency</p> <p>37) VCA (Video Content Analytic): Should support multiple video contented analytics based on camera analytics</p> |      |     |          |      |             |
| 3.2.1 | 08 Channel Network Video Recorder (NVR) having display split :- Main screen: 1/4/8/9, 2nd screen: 1/4/8/9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.00 | No  | 10078.00 | Each | ₹ 10,078.00 |
| 3.3   | Supplying, Installation, Testing and Commissioning following capacity Surveillance grade Hard Disk with upto 256MB/s Transfer Rate, 256 MB Cache, 7200 RPM Disk Speed, 3.5 inch form factor, SATA Interface, BSMI, ICES-003/NNB-003, CE, FCC, KC, Maghreb, RCM, UKCA, VCCI, CB-Scheme, TUV, UL Certifications.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |     |          |      |             |
| 3.3.1 | 4TB (Terabytes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.00 | Nos | 13943.00 | each | ₹ 13,943.00 |
| 3.5   | Supplying and fixing of following size Wall Mount Rack having Fixed Structure with 0.8mm CRCA Sheet, completely knocked-down condition (CKD) Shape, Vertical Mounting Rail 1.6 mm with 'U'Marking, Minimum 2 cable entry/exit provision at Top and bottom with rubber protection, Front 5mm Toughened Glass with lock, wall mounting kit, Powder coated Color- RAL- 7035, complied with                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |     |          |      |             |

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |     |          |            |                       |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|----------|------------|-----------------------|
|       | UL & RoHS, 2 x 6 sockets 16A power distribution units, 3 numbers closed cable organizer, Hardware mounting screws packet of 20 x 1 number, etc. complete as required.                                                                                                                                                                                                                                                                                                                                                                                                      |      |     |          |            |                       |
| 3.5.1 | 6U Rack                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.00 | Nos | 6939.00  | each       | ₹ 6,939.00            |
| 3.6   | Supplying, Installation, Testing and Commissioning of following size LED display (LED monitor) industrial grade with 3840x2160 resolution or better, USB playback, bluetooth and miracast connectivity, 4X HDMI 2.0, DP 1.2, HDR 10/10+, brightness: 500-nits or better, Video wall mode should be available, contrast ratio: 1200:1, OPS slot, viewing angle (H/V): 170°/ 170°, response time less than 12ms, Display control shall be on monitor screen and programmable with remote (remote shall be supplied with system), Key Board, Optical Mouse, etc. as required. |      |     |          |            |                       |
| 3.6.1 | 32 inch or larger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.00 | Nos | 39590.00 | each       | ₹ 39,590.00           |
|       | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |     |          | <b>"A"</b> | <b>₹ 54,40,143.00</b> |
|       | <b><u>ABSTRACT OF COST</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |     |          |            |                       |
|       | <b>Total DSR 2025 items</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |          | <b>"B"</b> | <b>₹ 23,49,241.00</b> |
|       | <b>Total DSR 2021 items</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |          | <b>"C"</b> | <b>₹ 8,660.00</b>     |
|       | Add difference in GST 18% instead of 12% as per DSR-21 by multiplying factor of 0.0633 on DSR 2021 items only on "C"                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |     |          | <b>"D"</b> | ₹ 548.00              |
|       | <b>Total ("C"+"D")</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |     |          | <b>"E"</b> | <b>₹ 9,208.00</b>     |
|       | Apply multiplying correction factor on account of GST @ 0.973 on "B" vide OM issued by DG/CPWD vide F. No. 158/SE(TAS)/GST/2024/02(E) dated 08.08.2024 on "E"                                                                                                                                                                                                                                                                                                                                                                                                              |      |     |          | <b>"F"</b> | ₹ 8,959.00            |
|       | Add Cost Index 184 for Churachandpur over DSR 2021 i.e. 84% on "F"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |     |          | <b>"G"</b> | ₹ 7,526.00            |
|       | <b>Total DSR 2021 Items ("F"+"G")</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |     |          | <b>"H"</b> | <b>₹ 16,485.00</b>    |
|       | <b>Total Market Rate Items</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |     |          | <b>"I"</b> | <b>₹ 30,82,242.00</b> |
|       | <b>GRAND TOTAL ("B"+"G"+"H")</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |     |          | <b>"J"</b> | <b>₹ 54,47,968.00</b> |

# PART – “D”

| <b><u>CENTRAL PUBLIC WORKS DEPARTMENT</u></b>                                                                                                                       |                                                                                                                                                       |                                                       |                                                     |                     |                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------|---------------------|--------------------------|
| <b>N.I.T. No: 13/NIT/CE/AGT/2026-2027.</b>                                                                                                                          |                                                                                                                                                       |                                                       |                                                     |                     |                          |
| <b>Name of work: Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur.</b> |                                                                                                                                                       |                                                       |                                                     |                     |                          |
| <b>SCHEDULE OF QUANTITY</b>                                                                                                                                         |                                                                                                                                                       |                                                       |                                                     |                     |                          |
| <b>Name of the Contractor</b>                                                                                                                                       |                                                                                                                                                       |                                                       |                                                     |                     |                          |
| <b>Sl. No.</b>                                                                                                                                                      | <b>Name of component</b>                                                                                                                              | <b>Estimated cost (Civil &amp; Electrical) (in ₹)</b> | <b>Percentage above or below the estimated cost</b> | <b>% in Figures</b> | <b>Total Cost (in ₹)</b> |
| 1                                                                                                                                                                   | 2                                                                                                                                                     | 3                                                     | 4                                                   | 5                   | 6                        |
| 1                                                                                                                                                                   | <i>Construction of 01 No. of Type IV Qtr and 02 Nos of Type II Qtr and Horizontal Extension of Office Building for SIB at Churachandpur, Manipur.</i> |                                                       |                                                     |                     |                          |
|                                                                                                                                                                     | Civil =                                                                                                                                               | ₹ 3,31,71,373.00                                      |                                                     |                     |                          |
|                                                                                                                                                                     | Electrical =                                                                                                                                          | ₹ 54,47,968.00                                        |                                                     |                     |                          |
|                                                                                                                                                                     | <b>Grand Total =</b>                                                                                                                                  | <b>₹ 3,86,19,341.00</b>                               |                                                     |                     |                          |

1. The Column Nos 4 & 5 are mandatory to be filled by the bidders/tenderers. If all these columns are left blank, the tender become invalid.
2. The amount in figures in column No.6 shall appear automatically corresponding to the percentage quoted in column No.4 & 5.
3. The tenderer is required to quote the percentage only above or below or at par with the estimated cost to cover all the rates of item covered under the respective packages.
4. The percentage shall be written in 2 (two) place of decimal.
5. If the percentage selection in column No 4 is "At Par", by default the percentage will be considered as "Zero" only. In other words, if "At par" is selected in column No.4, then no need to fill column No.5.

Signature of Contractor

**Executive Engineer, Manipur,  
CPWD, GPRA Colony, Sangaiprou,  
Imphal-795140,**

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