

BID DOCUMENT

No.1/DTE(UD&PA)/AMRUT/2024-2025 : Dated Aizawl, the 10th September, 2024

GROUP NO : 16

NAME OF WORK : Waterbody Rejuvenation of Huliana Tuikhur at Saitual Venglai

ISSUED TO :

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*DIRECTORATE OF URBAN DEVELOPMENT & POVERTY ALLEVIATION
DEPARTMENT
GOVERNMENT OF MIZORAM
MIZORAM: AIZAWL*

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INVITATION FOR BIDS

SECTION 1: INSTRUCTION TO BIDDERS (ITB), TERMS & CONDITIONS

Government of Mizoram, Urban Development & Poverty Alleviation Department (UD&PA) has intention to **rejuvenate waterbody**. Part of the above tender involves construction of tuikhur and its periphery.

The above work comprises of excavation of earth and disposal, dismantling, construction of tuikhur and surrounding areas.

Tender has been invited from eligible and qualified firms/contractors fulfilling the following terms and conditions:-

1. All bidders shall provide information in Section 2, Forms of Bid and Qualification Information etc.
2. Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices.
3. Joint Venture/ Consortium/ Sub Contract are not permitted to bid.
4. The bid to be submitted by the bidder shall be submitted as under:

Cover – I: The contract no, group no and name of bidder should be written in sealed envelope addressing the Executive Engineering, UD&PA Department. The envelope will consist of technical and financial bid as follows:-

Cover - II: Shall be named "Technical Bid" and shall comprise of inside covers as below:-

Cover – II(a): Shall be named "Bid Security/ Earnest Money Deposit (EMD)"

- (i) Bid security/EMD in the form specified in Clause 5 of ITB

Cover – II(b): Shall be named "Technical proposal: Pre - Eligibility"

- (i) Technical Bid (in format indicated at Section 2)
- (ii) Qualification Information and supporting documents as specified in Section – 2
- (iii) Certificates, undertakings, affidavits, Power of Attorney etc as specified in Section 2
- (iv) Undertaking that the bid shall remain valid for the period specified in Clause 5 of ITB

The sealed covers shall be received in the office of the Technical Branch, Directorate of UD&PA, MINECO, Aizawl – 796001, during the office hours on working days till the last date and time of submission of the bid. The sealed covers shall be delivered in person or submitted by

post or by courier should reach and delivered in the office within the stipulated date and time positively. The department will not be held responsible for any delay or loss or damage of the bid documents during transit and in such events the bid stands rejected summarily. If the bids are not received in due time, the bid shall be declared non – responsive.

5. Bid Security :

- a) The bidders shall furnish, as a part of his bid, a bid security of an amount as shown in NIT. Bid security in the shape such as Deposit Receipt of Scheduled Bank (Term Deposit Receipt)/ Post Office Savings Bank Account/ National Savings Certificate/ Postal Office Time Deposit Account/ Treasury Challan/ Demand Draft duly pledged in favour of Executive Engineer, UD&PA Department, Aizawl – 796001 is acceptable. Bid security shall remain valid till 90 (Ninety) days. The bidder has the option of furnishing Bid Security in the Form of Bank Guarantee from a Nationalized Bank of India, Counter guaranteed by its branch at Aizawl.
 - b) **Any bid not accompanied by an acceptable Bid Security and not secured as indicated in sub-clauses 5.a shall be rejected by the Client as non-responsive.**
 - c) The bid security of unsuccessful bidders shall be returned within 28 days of the end of the bid validity period specified in 5.a.
 - d) The bid security of unsuccessful bidder shall be discharged when the bidder has signed the Agreement and furnished the required Performance Security/ Guarantee.
 - e) The bidders security may be forfeited
 - i) If the bidder withdraws the bid after bid opening during the period of bid validity;
 - ii) In the case of a successful bidder, if the bidder fails within the specified time limit to Sign the agreement or furnish the required Performance Security.
6. All bidders shall include the following information and documents with their bids:
- a) Copies of original/attested photocopy of contractor registration certificate/documents defining the constitution or legal status, place of registration, written power of attorney of the signatory of the Bid to commit the Bidder.
 - i. The Empanelment / Registration of the Contractors / Firms should be valid on the last date of selling tender documents.
 - ii. In case only the last date of sale of tender document is extended. The enlistment of Contractor should be valid on the original date of sale of tenders.
 - iii. In case both the last date of receipt of application and sale of tenders are extended, the enlistment of contractor

should be valid on either of the through date i.e. Original of sale of tender or on the extended date of sale of tender.

- b) The bidder should have valid GST registration number.
 - c) The tenderer should enclosed House Tax Payee Certificate (upto date original / attested photo copy)
 - d) Information regarding any litigation or arbitration resulting from contracts executed by the bidder in the last five years or currently under execution. The information shall include the names of the parties concerned, the disputed amount, and cause of litigation, matter in dispute & the stage of the litigation.
- 7.** Each bidder shall submit only one bid for one package. A bidder who submits or participates in more than one bid will render all the proposals of the bidder disqualified.
- 8.** The Contractor shall quote his rates keeping in mind the specifications, terms & conditions, additional and special conditions, Labour Cess, GST etc. as applicable shall be paid by the contractor himself. The Contractor shall quote his rate considering all such taxes and nothing shall be payable extra whatsoever unless otherwise specified.
- 9.** Considering the present market rate of the construction materials, bidder must quote his rate.
- 10.** The bidder should undertake their own studies before submitting tender documents. The bidder, at the bidder's own responsibility and risk is encouraged to visit and examine the Site of Work and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into the contract for construction of the works. The costs for visiting the Site shall be at the Bidder's own expense.
- 11.** Even though the bidders meet the qualifying criteria, they are subject to be disqualified if they have:
- a. Made any misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
 - b. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and / or
 - c. If quoted unreasonably high bid prices (more than the tendered amount) or unreasonably low bid prices and could not furnish rational justification to the Client.
- 12.** The completion time for the project is 6 months/ 180 days from the issue date of LOI. If there is a delay in handing over of the field for reasons not accepted by the department, a penalty of Rs. 10,000 per week (7 days) will be levied on the agency for the number of weeks the work is delayed.

13. There will be a defect liability of 6 months from the date of completion.
14. The bidders should have the capacity of execution of the work even when there is a lapse of making payment due to the situation beyond the control of the employer.
15. The contract shall be for the whole work based on the Bid submitted by the Bidder.
16. **The bidder shall fill the item rate and the total bid price (both in figures and words) as specified in the BOQ. Amount should be worked out for all the items. Amount must be quoted in full rupees by ignoring up to 50 paise and considering more than 50 paise as rupee one. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.**
17. The prices tendered shall except in so far as it is otherwise, provided under the contract, include cost of investigation, design & engineering, all constructional plant, labour, supervision, materials, erection maintenance, insurance, profit, all taxes and duties & other levies together with all general risks, liabilities and obligations set out or implied in the contract.
18. The bidder should be well aware that mobilization advance or any kind of advances cannot be claimed and is not entertained by the Department.
19. Before the deadline for submission of bids, the Client may modify the bidding documents by issuing addenda.
20. The bid price quoted by the bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment or revision on any account.
21. The site for the work is available.
22. The bidder should sign in each and every page of the bid documents.
23. **The total quoted amount should not be lesser than 5% of the estimated amount put to tender. Should be exactly 5% and decimal point beyond this will be treated as lower than the specified amount.**
24. **If the tender form is downloaded online, payment have to be made offline before submission of bid documents along with the receipt.**

The bid document can be obtained on payment of Rs. 500.00 (Rupees five hundred) from the Office of the undersigned.

The bid document along with company/firm/contractor profile, work done certificate/completion certificate from the concerned authorities and other necessary document in support of the eligibility, financial capacity of the bidder and Financial bid shall be submitted to the undersigned address on or before **11:00 AM on 15.10.2024** and technical bid shall be opened on the same day @ **1:00 PM**.

The bid must be accompanied by a bid security/earnest money deposit in the form of Fixed Deposit Receipt (Term Deposit Receipt) / Demand Draft / Bank Guarantee of any Scheduled Bank duly pledged in favour of The Executive Engineer, UD&PA Dept, Mizoram New Capital Complex, Khatla, Aizawl-796001. Bid Security shall remain valid till 90 (ninety) Days.

Urban Development & Poverty Alleviation Department reserves the right to accept or reject any or all the tenders without assigning any reason.

Sd/-
Executive Engineer
Urban Development & Poverty Alleviation Department
Mizoram: Aizawl.

SECTION 2 : QUALIFICATION INFORMATION

TABLE OF FORMS:

- QUALIFICATION INFORMATION**
- EVALUATION CRITERIA AND METHOD OF EVALUATION**

Qualification Information

This Section contains all the criteria that the Employer shall use to evaluate Bids and qualify Bidders.

The information to be filled in by the Bidder in the following pages will be used for purpose of Qualification. This information will not be incorporated in the Contract.

1. For Bidders

- 1.1 Constitution or legal status of Bidder
[Attach copy]

Place of registration:

Principal place of business:

Power of attorney of signatory of Bid
[Attach]

- 1.2 Information on litigation history in which the Bidder is involved.

Other party (ies)	Client	Cause of dispute	Amount involved	Remarks showing present status

2. Evaluation Criteria And Method Of Evaluation

- i. Technical Eligibility
 - a) Earnest Money Deposit & Contractor's Bid
 - b) The Empanelment/ Registration of the Contractors/ Firms
 - c) Valid House Tax Payee Certificate
 - d) Valid GST Registration No.
 - e) Affidavit
- ii. Financial Eligibility – will be the total quoted amount for the project. Only the bidders qualifying the technical bid will be eligible for evaluation.

SECTION 3. GENERAL CONDITIONS OF CONTRACTS (GCC)

1. Completion Drawings:

On Completion of work, the Contractor shall submit four prints of "AS BUILT" drawing to the Engineer-in-Charge. These drawings shall have the following information:-

- a) Run of all pipes and their diameters, including soil waste pipes vertical stacks.
- b) Ground and invert levels of all drainage pipes together with location of all manholes and connections, up to outfall.
- c) Run of all supply lines with diameters, location of control valves access panel, etc.

2. Condition for Sanitary and water supply fittings:

Samples of all materials and fittings to be used in the work in respect of Brand, manufacturer and quality shall be got approved from the Engineer-In-Charge well in advance of actual execution. Preference shall be given to articles bearing BIS Certification mark.

- i) All Sanitary fittings such as W.C. pans, wash basins, urinals, etc., shall be approved make e.g. Hindustan Sanitary Ware, Parry Ware, Cera, Neycer.
- ii) All bib cocks, stop cocks, C.P. brass taps, etc., shall be of specified weight as per CPWD Specification and shall be of approved make e.g. Soma, Gem, Parko, Kingston.

Any materials/fitting whose samples has not been approved in advance and any other unapproved material brought by the Contractor shall be immediately removed as soon as directed, failing which the same shall be got removed at the risk and cost of the contractor by the Engineer-In-Charge without any further reference.

Wherever proprietary Brand/Manufacturer is mentioned in the Nomenclature of the items, it will imply that particulars brands as approved by the Engineer-In-Charge shall be used. If required, for approval of Engineer-In-Charge, sample of any item of work shall be prepared by the contractor before starting the particular item of work and nothing extra shall be payable on this account.

3. Shutters shall be machine made and factory made only. Source of procurement (Factory) of shutters shall be got approved by the Engineer-In-Charge before placing orders. Shutters shall be got prepared through specialized agency who are duly authorized and approved by the manufacturer.

4. After the structure of one is completed, sample unit as per laid down specification shall be completed and got approved from the Engineer-In-Charge, the balanced unit shall be completed as per approved sample unit.
5. A piece of M.S. Conduit pipe used for operations of fittings and fixtures light pull bolt lock, etc. including welding required will be provided by the Contractor and nothing extra will be paid on this account. However, where the conduit pipes are not required, no deduction will be made on this account.
6. The Contractor shall made his own arrangement for obtaining electric connections, if required, and make necessary payment directly to the department concerned and nothing extra shall be payable on this account.
7. The Contractor shall provide at his own cost suitable leveling, weighing and measuring arrangement at site for checking the level, weight, dimensions, etc. as may be necessary for execution of the work.
8. Other agencies will also simultaneously execute the work like electrifications, Horticulture or external services and other building works for the same projects along with this work in particulars. The contractor shall afford necessary facilities for the same. No claim whatsoever in the matter shall be entertained.
9. The Building work will be carried out in the manner complying in all respects with the requirements of relevant bye-laws of the local body under the jurisdictions 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.
10. The contractor shall submit a detailed programme in the form of CPM/PERT chart to the Engineer-In-Charge within 15 days of award of work and shall be got approved from him. The programme chart should include the following -
 - a) Network CPM/PERT diagram prepared as per existing practice.
 - b) Descriptive note explaining sequence of various activities.
 - c) Programme for procurement of materials by the contractors.
 - d) Programme of mobilization of machinery/equipments and their deployments.

The Programme chart will have to be updated on fortnightly basis and will be submitted to the engineer-in-charge regularly. The approval by the Engineer-In-Charge of such programmes 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 the Engineer-In-Charge to take action against contractor as per terms and conditions of the agreement.

11. The Contractor shall arrange and provide adequate centering and shuttering to ensure completion as per schedule.
12. The Contractor shall have to use plate vibrators for casting of RCC Slab in addition to needle vibrators and vibratory plate compactor for compaction of earth under floors.
13. All tools, plant and machinery provided by the contractor shall when brought to the site, be deemed to be exclusively intended for constructions and completion of this work and the contractor shall not removed the same or any part thereof without the consent of the Engineer-In-Charge.
14. Ceramic wall tiles shall be of standard quality of reputed make like Somani, Johnson, Kajaria, Spartek, Rigent Orient, Asian with size not less than 20 cm X 30 cm. or as approved by the Engineer-In-Charge. The Joints shall be continuously vertical and not staggered. Tiles shall have glossy finish or matte finish as desired by the Engineer-In-Charge and should be of first quality.
15. Kota Stone slab flooring shall be laid as per pattern approved by the Engineer-In-Charge. The Stone Slab shall be machine cut and size shall in general not be less than 0.25 Sqm. except in case of bands, strips & stair case.
16. The rate quoted by the Contractor shall be all inclusive keeping in mind the specifications, additional and special conditions in view and nothing extra shall be payable whatsoever, unless otherwise specified.
17. All arrangements for establishment, watch & ward, police permission, appropriate vehicles for transportation, etc., shall have to be arrange by the contractor and nothing extra on this account shall be payable.
18. Various factory made materials may be procured from reputed & approved manufacturers or their authorized dealers. List of such approved manufacturers is available **at Annexure-I.** For the items/materials not appearing in the list, the decision of Executive Engineer shall be final and binding.
19. The earthwork obtained from excavation of foundation shall be used for filling in plinth, sides, under the floors and courtyard, etc. and in low lying areas within the premises as per direction of Engineer-in-Charge. The contractor if so desired by Engineer-in-Charge in writing shall dispose the earth outside the premises at specified location, for which extra payment shall be made as admissible in terms of contract.
20. The Contractor shall use good centering and shuttering system so as to ensure good quality concrete surface in all locations. In case concrete surface is found to be not up to mark, or in line and level or there is

honey combing the contractor would be asked to dismantle the same and redo work at his own cost.

21. All brick work and RCC work in basement up to plinth level, irrespective of its height shall be measured in the relevant item of brick work/RCC work in foundation, plinth and basement.
22. Wherever work is specified to be done or material procured through specialized agencies, their names shall be got approved well in advance from Engineer-in-Charge. Failure to do so shall not justify delay in execution of work. It is suggested that immediately after award of work; Contractor should negotiate with concerned specialist agencies and send their names for approval of Engineer-in-Charge. Any material procured without prior approval of Engineer-in-Charge in writing is liable to be rejected. Engineer-in-Charge reserves right to get the materials tested in laboratories of his choice before final acceptance. Non standard materials shall not be accepted.
23. Doors & frames shall be procured from specialist firms, products of such agencies shall be got approved from the Engineer-in-Charge well in advance.
24. Water proofing works shall be done by specialized firms. Name of such firms shall be got approved from Chief Engineer PWD Buildings well before the time of execution of those items. The contractor shall maintain a register showing the date-wise locations where water proofing works are done.

Such record shall be got attested by the representative of the Engineer-in-Charge on day to day basis. Any defective work will be dismantled forth with and shall be re-done. Only licensed plumber shall be engaged in plumbing work.

25. No pipes shall be covered before representative of Engineer-in-Charge satisfy themselves about the joint being tight against leakage. In order to be sure of the same smoke test for soil/waste pipes and pressure test for plumbing would have to be conducted. Cost of such testing would be included in the quoted rate for relevant items.
26. The Construction joint shall be provided in predetermined locations only as approved by Engineer-in-Charge. The cost of shuttering and the treatment of joints may be included in item of concrete work/RCC work itself and nothing extra shall be payable on this account to the contractor.
27. All reinforced Cement Concrete work shall be weigh batched, machine mixed and machine vibrated design mix of specified grade. The contractor shall install on the site fully/semi automatic batching plant or weigh batcher at the site allotted by the Department. This plant shall have provision of accurate measurement of weight of various ingredients including water. If the agency wants to install the plant at

location other than that allotted to him, he shall have to arrange the land as well as suitable transit mixers and pump of required capacity at his own cost and nothing extra shall be payable on this account. Alternatively, concrete can be purchased from the approved RMC plants. Refer condition No.29. The contractor however, shall indicate the intension of doing so at the time of tendering itself with full details.

28. The Contractor should declare at the time of tendering as to how he will arrange designed mixed concrete i.e. whether he would install batching plant/weigh batcher at site of work or would arrange design mixed for approved RMC Plant.

If contractor decides to procure ready mix concrete from RMC Plants, he shall within a week of award of the work, submit list of at least 3 RMC plant companies of repute along with details of such plant, indicating name of owner/company its locations, capacity, technical establishment, past experience and tax of MOU proposed to be entered between purchaser and supplier to the satisfaction of Engineer-in-Charge who satisfying himself with quality/capability of the company shall give approval in writing (subject to drawl of MOU) The MOU shall be drawn with RMC plant owner/company and submitted to Engineer-in-Charge within a week of such approval. The contractor will not be allowed to purchase ready mixed concrete without completion of above stated formalities for use in this project.

Notwithstanding the approval granted by Engineer-in-Charge in aforesaid manner the contractor shall be fully responsible for quality of concrete including input control, transportation and placement, etc.

The Engineer-in-Charge will reserve right to inspect at any state and reject the concrete if he is not satisfied about the quality of the product. The Contractor should therefore draw MOU/agreement with RMC owner/Company very carefully keeping all terms and conditions / specification forming a part of this tender document.

The Department reserves right to exercise control over RMC procured as specified in para 24 of particular specification.

29. Work contract tax/state govt. VAT/GST on work contract shall be deducted from all running/final bills as applicable from the gross value of work done.

B. GENERAL SPECIFICATIONS

1. Except for the items, for which particular specifications are given or where it is specifically mentioned otherwise in the description of the items in the schedule of Quantities, the work shall generally be carried out in accordance with CPWD specifications 1996 Vol. I to VI and revised CPWD Specifications 2002 for Cement Mortar, Cement concrete and RCC Works with up-to-date correction slips (herein after referred as CPWD Specifications) and instruction of the Engineer-in-Charge. Wherever CPWD Specifications are silent, the latest Indian Standard Codes/Specifications shall be followed.
2. Should there be any discrepancy/variation between CPWD Specifications, particular Specifications, IS Code/Specification applicable at the time of receipt of tender for any item, then the order of precedence regarding the applicability of the Specifications for the item shall be as under:
 - i) As per nomenclature of the item in the schedule of quantities.
 - ii) As per particular specifications given.
 - iii) As per CPWD Specifications.
 - iv) As per relevant IS Code/Specification as applicable at the time of receipt of tender.
 - v) As per direction of Engineer-in-Charge given in writing, based on acceptable sound engineering practice and local usage.
3. The work shall generally be executed in accordance with Architectural drawings, which can be seen in the office of the Executive Engineer. These drawings are however subject to alterations, modifications, additions/substitution as may be considered necessary during execution by the Engineer-in-Charge.
4. Unless, otherwise specified in the Schedule of Quantities, the rates tendered by the Contractor shall be considered as all inclusive and shall apply to all heights, leads and depths and nothing extra shall be payable on this account.
5. The rates for all items of work shall unless clearly specified otherwise, include cost of all labour, material/tools and plants and other inputs involved in the execution of item.
6. Unless otherwise specified in the Schedule of Quantities, the rates for all items shall be considered as inclusive of pumping/bailing out water, if necessary.

This condition shall be considered to include water from any source, such as rain, flood, surface and sub soil water, etc., and shall apply for execution in any reason.

7. The rates for all items in which the use of cement is involved, is inclusive of charges for curing.
8. The foundation trenches shall be kept free from water while works below ground level are in progress. Nothing extra shall be paid on this account.
9. The Contractor shall make provisions of hangers, sleeves, structural openings and other requirements well in advance to prevent hold ups in progress of construction.
10. For Plumbing works, the contractor shall give performance tests as per specification for installations provided before the same are accepted to the satisfaction of the Engineer-in-Charge and nothing extra whatsoever, shall be payable on this account. All materials and equipments installed that are found defective during testing shall be replaced and the whole work shall be tested again to conform to the requirements of specifications without any extra payment.
11. Other agencies may also simultaneously execute and install the works of electrification etc. for this work and the contractor shall afford necessary facilities for the same. The contractor shall leave necessary holes, openings and laying, burying, pipes, cables, conduits, clamps, etc. in the work as may be required by other agencies and nothing extra shall be paid on this account.
12. The water will be got tested by the contractor at his own cost from the approved laboratory with regards to its suitability for use in the work and nothing extra shall be paid on this account.
13. The Structural and Architectural drawing shall at all times be properly co-related by the contractor before executing any work and no claim whatsoever shall be entertained for failure to do so. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and architectural drawing relating to the relevant item, the former shall prevail unless and otherwise given in writing by the Engineer-in-Charge.
14. In respect of projected balconies, projected slabs at roof level and projected verandah, the payment for the RCC work shall be made under the item of RCC slabs. The payment for centering and shuttering for such items shall be made under item of centering and shuttering for RCC slabs. Nothing extra shall be paid for the side shuttering at the edge of these projected balconies and projected verandah.

15. In the item of RCC Walls, railing and drops, etc., nothing extra shall be paid for making designs as per pattern given by the Architect in the thickness of section.
16. With a view to avoid controversy about quality of cement concrete as revealed in the test results of 7 days cubes falling short of the prescribed standard by over 10% to 20% and pending test of balance 3 cubes for 28 days final confirmatory acceptance tests, crushed samples of cement concrete from the failed 7 days cubes should be preserved in the sealed bag.
17. All fabrication and welding etc. shall be done in workshop duly approved by Engineer-in-Charge.
18. The rate for railing is inclusive of all the labour and materials required for the execution as per prescription of the item. Portion of the railing which is embedded in the masonry or RCC shall not be paid for separately.
19. The SCI Pipes and CI Pipes wherever necessary shall be fixed to RCC columns, beams, etc., with rawl plugs and nothing extra shall be paid on this account.
20. The pig lead to be used in jointing 100mm, 75mm and 50 mm SCI shall not be less than 0.98 kg., 0.88 kg and 0.77 kg per joint respectively.
21. The difference in overall thickness of different types of flooring shall be adjusted in RCC slab so that finished floor level remains same. No extra payment shall be made on this account.
22. Unless otherwise specified, FPS bricks shall be used in all items of work. The classifications of bricks brought by the contractor shall strictly conform to the CPWD Specifications.
23. The contractor shall be required to produce samples of all building materials sufficiently in advance to obtain approval of the Engineer-in-Charge. This approved sample shall be displayed at site of work and preserved till completion of the work. The materials to be used in the actual execution of the work shall strictly conform to the quality of samples approved. In case of any variation, such materials shall be liable to rejection.
24. All materials obtained from Govt. stores or otherwise shall be got checked by the Engineer-in-Charge or his representative of the works on receipt of the same at site before use.
25. All the materials used in the work shall comply with the requirement of Engineer-in-Charge shall pass all the tests and analysis required by him

as per particular specifications as applicable or such recognized specification as acceptable to the Engineer-in-Charge.

26. The contractor shall establish a site laboratory and shall provide cube crushing & testing machine appliance at site, such as weighing scale, graduated cylinder, standard sieves, thermometer, slump cones, etc., in order to enable the Engineer-in-Charge to conduct field tests to ensure that the quality is consistent with the prescribed specifications and nothing extra shall be paid on this account.
- 26.1. 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 the work. The quality assurance programme should include method statement for various items of works to be executed along with check lists to enforce quality control.
 - a. The contractor shall get the source of various raw materials namely aggregate, cement, sand, steel, water, etc., to be used on the work, 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.
 - b. Similarly, the Contractor shall submit brand/make of various materials to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.
 - c. The Contractor shall submit shop drawings of staging and shuttering arrangement, for approval of the Engineer-in-Charge. The contractor shall also submit bar bending schedule for approval of Engineer-in-Charge before execution.
27. The Contractor shall at his own cost, make all arrangement and shall provide such facilities as the Engineer-in-Charge may require for collecting, preparing and forwarding the required number of samples for tests and for analysis of such items and to such places, as directed by the Engineer-in-Charge. Nothing extra shall be paid for the above, including the cost of materials to be tested.
28. The necessary test shall be conducted in the laboratory approved by the Engineer-in-Charge. The sample for carrying out all or any of the tests shall be collected by the Engineer-in-Charge or on the behalf of the Officer in

29. 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 himself, the results of such tests and consequences thereon shall be binding on the contractor.
30. The contractor shall get the water tested with regard to its suitability for use in the works and get written approval from the Engineer-in-Charge before he proceeds with the use of same for execution of works. If the tube well water is not suitable, the contractor shall arrange suitable water from municipal or any other source at his own cost and nothing extra shall be paid to the contractor on this account. The water shall be got tested at frequency specified in latest BIS code/CPWD specifications.
31. Wherever any references to any Indian Standard Specifications occur in the documents relating to this contract same shall be inclusive of all amendments issued thereto or revision thereof if any, up to date of the tender receipt.
32. Any cement slurry added over base surface (or) for continuation of concreting for better bond is considered to have been included in the item (unless otherwise explicitly stated) and nothing extra shall be payable or extra cement considered in consumption on this account.
33. The material shall conform to the quality and make as per list attached however for the item not appearing in the list, preference shall be given to those articles, which bear ISI certification marks.

In case articles bearing ISI certification marks are not available the quality of sample brought by the contractor shall be judged by the standard laid down in the relevant ISI specification/CPWD Specification. All materials and articles brought by the contractor to the site for use shall conform to the samples approved, which shall be preserved till the completion of the work. However, such articles, which bear ISI mark but stand banned by CPWD will not be used.
34. The items of filling sand under floors shall include the cost of sand also.
35. The samples for various items of flooring/dado/skirting, painting and other finishes shall be prepared by the contractor as per approved specifications/drawings and shall be got approved in writing from Engineer-in-Charge before execution of such items.
36. Flooring as well as skirting/dado shall be laid as per pattern approved by architect/Engineer-in-Charge and nothing shall be payable on this account.

37. The stone of flooring as well as dado/skirting should be of same quality and shade and joints should be matched with each other.
38. All CP fittings and Fixtures as mentioned in schedule of quantity/Specification shall mean CP brass fittings and fixtures.
39. For item of external finishing such as stone cladding, water-proof cement, etc., rates quoted will be applicable for all heights & lifts, unless otherwise specified.
40. Rates for the items is inclusive of cost of all labour, materials, T&P, incidental charges, contractor's profit and overheads unless otherwise specified. The contractors shall quote the rates accordingly.

C. PARTICULAR SPECIFICATIONS

1.0 EARTH WORK

- 1.1 The rate unless specified otherwise shall include bailing out water due to subsoil condition, rains, floods, springs etc and the area shall be kept dry when the work is in progress below water table. Nothing extra is to be paid for removal of slush etc, while excavating under water.
- 1.2 The surplus excavated earth shall be disposed off at the specified location in the item. The tenderer may inspect the actual location of the site for disposal of surplus earth so as to acquaint himself with the route and distance for the cartage.

2.0 R.C.C WORK

2.1 Centering and Shuttering

- 2.1.1 For RCC work good quality centering & shuttering shall be used. No timber centering materials shall be permitted for the work. The shuttering for raft, RCC walls shall be made with M.S plates with adequate stiffeners, plates properly joined with bolts and nuts including rubber gasket so as to stop leakage of cement slurry from joints.
- 2.1.2 The concrete surface shall be free from honey combing, offsets, superfluous mortar, cement slurry and foreign matter. The form work shall be assembled in such a way so as to facilitate removal of their parts in proper sequence without any damage to the exposed cement concrete surfaces and corners etc. The contractor shall keep skilled staff for special care and supervision to check the form work and concreting so that every member is made true to its size, shape, level and alignment so that it does not result in any deformation, snag, bulges etc. The contractor shall also take suitable precautionary measures to prevent breaking and chipping of corners and edges of completed work until the building is handed over..

2.2 Ingredients :-

- 2.2.1 Coarse Aggregate: As per CPWD specifications.
- 2.2.2 Fine Aggregate: As per CPWD specifications.
- 2.2.3 Water: It shall conform to requirements laid down in IS : 456-2000 and CPWD specifications.

2.3 STANDARD OF ACCEPTANCE

Standard of acceptance shall be specified in Revised CPWD Specifications 2002 for cement mortar, cement concrete & RCC works in pursuance to IS 456:2000..

- 2.4 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of RCC shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor.

2.5 R.C.C WORK (DESIGN MIX CONCRETE)

The RCC work shall be done with Design Mix Concrete unless specified. In the nomenclature of items wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. For the nominal mix in RCC, CPWD specifications shall be followed. The Design Mix Concrete will be designated based on the principles given in IS : 456, 10262 & SP 23. The contractor shall design mixes for each class of concrete indicating the concrete ingredients and proportions that will result in concrete mix cement, the mix shall be designed with these ingredients as well. The specification mentioned herein below shall be followed for Design Mix Concrete.

2.5.1 Ingredients :-

Coarse Aggregate: As per CPWD specifications, the maximum size of stone aggregates shall be 20mm nominal.

Fine Aggregate: As per CPWD specifications.

- 2.2.4 Water: It shall conform to requirements laid down in IS : 456-2000 and CPWD specifications.

Cement: It shall be of 43 grade and shall conform to IS : 8112.

Admixtures: Wherever required, admixtures of approved quality shall be mixed with concrete to achieve the desired workability within specified water cement rate. The admixtures shall conform to IS : 9103. The chloride cement in the admixtures shall satisfy the requirement of B/S : 5057. The total amount of chlorides in the admixtures mixed concrete shall also satisfy the requirement of IS : 456 – 2000.

The Contractor shall not be paid anything for extra for admixture required for achieving desired workability without any changes in specified water cement ratio or RC/CC work.

- 2.5.2 Grade of Concrete: The characteristics compressive strength of all grades of Concrete manufactured / produced shall be as per clause 5.8.4.1 of Revised CPWD specifications 2002 for cement mortar, cement

concrete and RCC works. Minimum cement content shall be 310 KG per cum concrete. The maximum water cement ratio shall be 0.50.

2.5.2.1 The mix will be designed for minimum workability as specified in para 7 of IS – 456 – 2000.

2.5.2.2 It is specified highlighted that in addition to the above requirement, the maximum cement concrete for any grade shall be limited to 500 Kg per cubic metre of concrete.

2.5.2.3 The minimum/maximum cement content for design mix concrete shall be maintained as per the quality mentioned above. Even in the case where the quality of cement required is higher than the minimum specified above to achieve desired strength based on an approved mix design, nothing extra shall become payable to the contractor.

2.5.3 The concrete mix design with or without admixture (it to be used by contractor at its own cost) will be carried out by the contractor at his own cost through one of the following laboratories / Test houses:

- (i) PWD Laboratory
- (ii) I.I.T, Guwahati
- (iii) N.I.T, Silchar
- (iv) Any reputed Lab as decided by EE UD&PA.

The various ingredients for mix design/laboratory tests shall be sent to the lab/test houses through the Engineer-in-charge immediately afterward of work and the samples of such aggregates sent shall be preserved at site by the department. The admixtures if used by contractor shall be at his own cost without any extra payment.

2.5.4 The contractor shall submit the mix design report along with details of trial mixes from any of above approved laboratories 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.

2.5.5 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.

2.5.6 APPROVAL OF DESIGN MIX :

The mix design for a specified grade of concrete shall be done for a target mean compressive strength $T_{ck} = F_{ck} + 1.65s$

Where F_{ck} = Characteristics compressive strength at 28 days.

S = Standard deviation which depends on degree of quality control.

The degree of quality control for this work is "good" for which the standard deviation (s) obtained the different grades of concrete shall be as follows:

GRADE OF CONCRETE	FOR GOOD QUALITY
M – 15	3.5
M – 20	4.6
M – 25	5.3
M – 30	6.0
M – 35	6.36

Out of the six specimen of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength to be attained at 28 days.

2.5.7 All cost of mix designing and testing connected there with including charges payable to the laboratory shall be borne by the Contractor.

2.5.8 BATCHING, MIXING, TRANSPORTATION, PLACING & COMPACTION:

The concrete shall be sourced from ready mix concrete plants or from on site/off site batching and mixing plant conforming to IS : 4925 or suitable weigh batching system as approved by Engineer-in-charge. It shall have the facilities of presenting the quality to be weighed with the suitable out off system when the same is achieved. All other operations in concreting work like Mixing, Slump, Laying/placing of concrete, compaction, curing etc. not mentioned in this particular specification for design mix of Concrete shall be as per the IS : 456-2000 and additional / special condition forming part of this tender document.

2.5.9 PREPARATION OF MIXES AS PER APPROVED DESIGN MIX AND CONDUCTING CONFORMITY TEST FIELD LAB:

The contractor shall make the cubes of trial mixes as per approved Mix design at site laboratory for all grades, in presence of Engineer-in-charge using sample of approved materials proposed to be used in the work, prior to commencement of concreting and get them tested in his presence to the entire satisfaction for 7 days & 28 days. Test cubed shall be taken from trial mixes as follows.

For each mix, a set of six cubes shall be made from each of the three consecutive batches. Three cubes from each set of six shall be tested at age of 28 days. The cubes shall be made, cured, transported and tested strictly in accordance with specifications. The average strength

of nine cubes at age of 28 days shall exceed the specified target mean strength for which design mix has been approved, the evaluation of test results will dine as per IS : 456 – 2000.

2.5.10 WORK STRENGTH TEST:

TEST SPECIMEN

Work strength test shall be conducted in accordance with IS : 516 on random sampling. Each test shall be conducted on six specimens, three of which shall be tested at 7 days and remaining three at 28 days. Additional samples shall be prepared as per the direction of Engineer-in-charge for testing cured by accelerated method as described in IS : 9103.

TEST RESULT OF SAMPLES

The test result of the sample shall be average of the strength of three specimens. The individual variation shall not be more than +15 percentage of the average. If more, the test results of the sample are invalid. At least 10% of the total test shall be done at the laboratory as described by the Engineer-in-charge, remaining tests will be done in the laboratory established at site by the contractor.

2.5.11 STANDARD OF ACCEPTANCE

Standard of acceptance shall be same as specified in Revised CPWD Specification 2002 for cement mortar, cement concrete & RCC works in pursuance to IS : 456-2000.

2.5.12 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of RCC shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor.

2.5.13 Measurement – As per CPWD Specifications.

2.5.14 Tolerances – As per CPWD Specifications.

2.5.15 Rate:

2.5.15.1 The rate includes the cost of materials and labour involved in all the operations described above except for the cost of centering, shuttering & reinforcement which will be paid separately.

2.5.15.2 In case of actual average compressive strength being less than the specified strength, which shall be governed by the Para “Standard of

acceptance" as above, the rate payable shall be worked out accordingly on prorated basis.

2.5.15.3 In case of rejection of concrete on account of unacceptable compressive strength, governed by the para "Standard of Acceptance" as above, the work for which samples have failed shall be redone at the cost of contractors. However, the engineer in charge may order for additional test (like cutting cores, ultrasonic pulse velocity test, load test on structure, or on part of structure, etc) to be carried out at the cost of contractor to ascertain if the portion of the structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests. The contractor shall take remedial measures necessary to retain the structure as approved by the Engineer in charge without any extra cost. However, for payment, the basis of rate payable to the contractor shall be governed by the 28 days cube test results and reduced rates shall be regulated in accordance as per provision in CPWD specifications and conditions cited in this tender document.

2.6 QUALITY CONTROL OF READY MIXED CONCRETE:

Quality control of ready mixed concrete will be divided into three convenient areas: Forward control, immediate control, Retrospective control.

FORWARD CONTROL

Forward control and consequent corrective control are essential aspects of quality control. It includes:-

(i) Control of Purchased Material Quality

It shall be assured that all the materials is purchased and used in the production of concrete conform to the stipulation of the relevant agreed standards with the material supplier and the requirements of the product mix design and quality control procedures. This can be accomplished / data from materials supplier.

(ii) Control of Material Storage

Adequate and effective storage arrangement shall be provided for prevention of contamination, reliable transfer and food systems, drainage of aggregates, prevention of freezing or excessive solar heating of aggregates etc.

(iii) Record of Mix Design and mix Design Modification

Record of mix design and mix design modification will readily available in computer for inspection of Engineer in charge any time.

(iv) Transfer and Weighting Equipment

RMC producer shall ensure that a documented calibration procedure is in place. Proper calibration records shall be made indicating date of next calibration due, corrective action taken, if required.

RMC producer shall also maintain a daily production record including details of customers to whom RMC was supplied including details of mixed supplied. Record shall also be maintained of what materials were used for that days production including water and admixture.

The accuracy of measuring equipment shall be within +2% of quality of cement, +3% of quality of aggregate, admixture and water being measured.

(v) Maintenance of Plant, Truck Mixers and Pumps

Maintenance of Plant, Truck Mixers and Pumps should be well mentioned so as to not hamper any operation of production, transportation and placement.

Immediate Control

Immediate Control is concerned with instant action to control the quality of concrete being produced or that of deliveries. It will cover:-

- (i) Weighting (correct reading of batch data and accurate weighting). For each load, written, printed or graphical records shall be made of the weights of the materials batched, the estimate slumps, the total amount of water added to the load, the delivery tickets number for that load and the time loading the concrete into the truck.
- (ii) Visual observation of concrete during production and delivery or during sampling and testing of fresh concrete (assessment of uniformity, cohesion, workability, adjustment to water content). The workability of the concrete shall be controlled on a continuous basis during production and any necessary corrective action taken.
- (iii) Use of equipment at the plant designed to measure moisture content of aggregates, particularly fine aggregates or the workability of the concrete.
- (iv) Making corresponding adjustment at the plant automatically or manually to batched quantities to allow for observed, measured or reported changes in materials in concrete quantities.
- (v) Concrete mixes shall be randomly sampled and tested for workability and where appropriate plastic density, temperature and air content. Corrective action shall be taken where significant variation is noticed.

Retrospective Control

Retrospective Control covers:

- i) Sampling of concrete, testing, monitoring of results.
- ii) Any property of materials or concrete such as aggregate grading, slump, air content, but it is particularly associated with 28 days cube strength because of its very nature as it cannot be measured ahead of or at the time of manufacture.
- iii) Weighbridge checks of laden and unladen vehicle weight.
- iv) Stock control of materials.
- v) Diagnosis and correction of faults identified from complains.
- vi) Control of designed and the prescribed mixes: a quality control system shall be operated to control the strength of designed mixes to the required levels. The system shall include continuous analysis of result from cube tests to compare actual with the target values together the procedures for modifying mix proportions to correct for observed differences. For prescribed mixes periodic and systematic checks shall be made to ensure that the comentitious materials contents of prescribed mixes comply with their mix proportion.

2.7. PRE-CAST WORK

- 2.7.1 Precast reinforced concrete units shall be of grade or mix as specified. Provision shall be made in the mould to accommodate fixing devices such as hook, flats, etc., and forming of notches and holes. Each unit shall be cast in one operation. A sample of the unit shall be got approved from Engineer-in-Charge before taking up the work.
- 2.7.2 Precast units shall be clearly marked to indicate the top of member and its location.
- 2.7.3 Precast units shall be stored, transported and placed in position in such a manner that these are not damaged.
- 2.7.4 The Compaction of the concrete shall be done by vibrating, table or external vibrators, as approved by Engineer-in-Charge. The rate quoted for the item shall include the element for framework and mechanical vibration.
- 2.7.5 Rate for item includes cost of all materials, labour, and all operations involved. Cost of MS frames, lugs including their welding, lifting hooks is also included.
- 2.7.6 Frequency of Sampling :

The minimum frequency of sampling of concrete of each grade shall be in accordance with the following table:

Quantity of concrete in the work, Cubic metre per day	Number of samples
1-5	1
6-15	2
16-30	3
31-50	4
51 & Above	4 plus one additional sample for each additional 15 cubic metre of part thereof

3.0 SCAFFOLDING:

3.1 Double scaffolding having two sets of vertical supports shall be provided for external wall finish, cladding, etc. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding platform shall be fixed.

4.0 FLOORING:

- 4.1. All the work in general shall be carried out as per CPWD specifications.
- 4.2. Only machine cut stone true to shape, size and dimensions of marble, Granite, Kota, Sand stone, etc., as specified shall be used for flooring work. The permissible tolerance shall be as per CPWD Specifications, which shall be adjusted in the mortar thickness. Nothing extra shall be payable on this account.
- 4.3 The ceramic tiles shall be as specified in the item. The tiles shall be of specified colours as shown in the drawings and will be laid in pattern as per architectural drawings. Nothing extra shall be paid for laying tiles in specific pattern. The tiles shall be of first quality of approved make.
- 4.4 Proper gradient shall be given to flooring for toilets, verandah, laboratories, courtyard, etc., as per the direction of the Engineer-in-Charge.
- 4.5 The Flooring and skirting will be executed as per pattern shown in the architectural drawings and as per approval of Engineer-in-Charge and nothing extra shall be payable on this account.
- 4.6 Samples of flooring materials are to be deposited well in advance to the Engineer-in-Charge for approval. Approved samples should be kept at site with the Engineer-in-Charge and the same shall not be removed except with the written permission of Engineer-in-Charge. No payment whatsoever will be made for these samples.

5.0 WOOD WORK/JOINERY WORK

D5.1 General

5.1.1 All fittings and fixtures shall be got approved from the Engineer-in-Charge before procurement well in advance and the approved samples shall be kept at site till completion of works.

5.1.2 Transparent sheet glass conforming to IS 2535-1977 shall be used, thickness being governed as under unless otherwise specified in the item in wood work/steel work:

Area of glazing	Thickness
a) For glazing area up to 0.5 Sqm	4.0 mm
b) For glazing area more than 0.5 Sqm	5.5 mm

6.0 FACTORY MADE SHUTTERS

6.1.1 The tenderer shall furnish the names and addresses of at least three specified firms/converters for manufacture of machine made (Factory made) shutter at the time of tendering. The Engineer-in-Charge shall approve one or more number of the forms for placing order for the manufacture of shutters by the contractor. In case the Engineer-in-Charge finds none of these firms suitable or the contractor fails to give the names of the firms at the time of tendering, the factories as approved by the Engineer-in-Charge shall be final and binding on the contractor.

6.1.2. The Contractor shall get the factory inspected and approved from the Engineer-in-Charge before taking up the actual fabrication of shutters. The factory shall have kiln seasoning plant, chemical treatment plant and all necessary machines for joinery work. The contractor shall produce certificates from the approved factory that the shutters supplied under the contract have been manufactured in the stated factory and wood used is kiln seasoned and chemical treated. All shutters shall have hammer marking of the name of the factory of manufacture and shall conform to IS : 1003 (Part - I)

6.1.3. The contractor shall fabricate six shutters of each type of door and give a written intimation to the Engineer-in-Charge who shall arrange for the inspection of samples at the factory site. The samples approved by the Engineer-in-Charge shall be signed by him as a mark of identification, Three of the approved samples of each type will be left in the factory and remaining approved samples will be delivered by the contractor at site subsequent deliveries of door shutters would be checked

against the approved samples and shall be accepted only if supplies conform to prescribed tests and samples already site are rejected by the Engineer-in-Charge in part or in full lot due to bad workmanship/Quality. Such shutters will not be measured and paid and the contractor shall remove the same from the site of work within seven days after the written instructions in this regard are issued by the Engineer-in-Charge or his authorized representative.

- 6.1.4. The contractor will arrange consignment wise inspection of the shutters (without applying priming coat) at factory by the Engineer-in-Charge or his authorized representative before bringing the shutters to the site. The consignment shall be of one truck load (8Tonne capacity) or a part thereof. In any consignment, all the shutters of the same type, class and grade & manufactured under similar conditions of production shall be grouped together to constitute a lot.
- 6.1.5. The Contractor shall provide the shutters of required size to match with each opening of the frames. For this purpose, the contractor shall measure at the site work exact size of the shutters and their number required to be provided.
- 6.1.6. The Contractor shall apply the priming coat to the shutters only after the lot is duly inspected and found satisfactory leaving the mark of approval.
- 6.1.7. Sampling and testing procedure:

The sampling and criterion for conformity shall be in accordance with provisions contained in IS : 1003 (Part-I)
- 6.1.8. The mandatory tests as prescribed in CPWD Specifications for dimensions, workmanship, moisture content, finish, quality of timber, chemical treatment, etc., shall be conducted in reputed laboratory.

7.0. STEEL WORK:

- 7.1.1 The manufacturer/fabricator of the following items of steel work shall be got done only from the workshops approved by Executive Engineer, UD&PA, Mizoram.
 - i) Pressed Steel and T-Iron Door frame.
 - ii) Steel Doors, windows, Ventilators and composite units.
 - iii) Grill.
- 7.2. The names of suitable workshops having technical capability and experience in executing similar work shall be submitted well in advance for approval of the Executive Engineer.

- 7.3. 10 mm dia. MS tie bar shall be provided at the bottom end of Tee-Iron frames to maintain them in true alignment.
- 7.4. The railing height shall be clear height above the finished floor/tread. The height of vertical bars at the turning points of the stair case railing shall be adjusted so as to provide smooth curvature to the railing.
- 7.5. All the welded joints for doors and windows shutters and frames shall have continuous welding as per CPWD Specifications. The Welded joints shall be properly finished by grinding before applying coat of primer.

7.6. FINISHING

All steel shall be thoroughly cleaned of rust, scale and dirt. A priming coat of approved steel primer i.e. red oxide zinc chrome primer conforming to IS 2074-79 shall be given. The fabricated steel door, windows ventilators and composite units frames shall be inspected in the factory and approved by the Engineer-in-Charge before priming coat is applied.

Final finishing Coat shall be given to the doors, windows and ventilators after they are erected and fixed in final position. The rate shall be exclusive of final finishing coats but shall include the priming coat.

- 7.7. Rate: The rate shall include the cost of labour and material involved in all the operations described above including one coat of approved steel primer but excluding two coats of paint.

8.0 WATER PROOFING TREATMENT

- 8.1. Treatment for roof surface with integral cement based compound (Brick Coba)

- 8.1.1. The brick bats shall be from over burnt bricks, The proprietary water proofing compound shall bear ISI mark and shall conform to IS: 2645. Before execution of work, water proofing compound has to be brought to site in full quantity and a certificate of its conforming to IS Code should be produced. The proprietary water proofing compound shall be added at the rate recommended by the specialist firms but not exceeding 3 percent by weight of cement. The Engineer-in-Charge reserves the right to collect the random sample from material brought at site and get it tested from laboratory of his choice. The material which does not conform to the specification shall have to be removed forthwith by the contractor.

- 8.1.2. The finished surface after water proofing treatment shall have the minimum slope of 1 in 80. At no point shall the thickness of water proofing treatment be less than 65mm.
- 8.1.3. While treatment of roof surface is done, it shall be ensured that the outlet drain pipes have been fixed and mouths at the entrance have been eased and rounded off properly for easy flow of water.
- 8.1.4. The surface where the water proofing is to be done shall be thoroughly cleaned with wire brushes. All loose scales mortar splashes etc shall be removed and dusted off. The surface shall be treated with neat cement slurry admixed with proprietary water proof compound to penetrate into crevices and fill up all the pores in the surface. This cement slurry shall also be applied at the junction of parapet and terrace slab including the vertical face of the parapet.
- 8.1.5. After the slurry coat is laid, layer of over burnt brick bats shall be laid in cement mortar of mix as specified by specialist firm but not leaner than 1:5 (1 cement: 5 coarse sand) admixed with proprietary water proofing compound to required gradient and joints filled to half the depth. The brick bat layer shall be rounded at the junction with the parapet and tapered towards top for a height of 300mm. curing of this layer shall be done for 2 days.
- 8.1.6. After curing, the surfaces shall be applied with a coat of cement slurry admixed with proprietary water proofing compound.
- 8.1.7. Joints of brick layer shall be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:4 (1 cement: 4 coarse sand) admixed with proprietary water proofing compound and finished smooth with cement slurry mixed with proprietary water proofing compound. The finished surface shall have marking of 300 x 300 mm false squares to give the appearance of tiles.
- 8.1.8. Curing of water proofing treatment shall be done for a minimum period of two weeks by flooding with water by making of tiles.

MEASUREMENTS:

- 8.1.9. The measurements shall be taken along the finished surface of treatment including the rounded and trapped portion at junction of parapet wall. Length and breadth shall be measured correct to one centimeter and area shall be worked out to nearest 0.01 sqm. No deduction in measurements shall be made for either opening or recesses for chimneys, stacks, roof lights and the like of areas up to 0.10

sqm nor anything extra shall be paid for forming such openings. For similar areas exceeding 0.10 sqm. Deductions will be made in measurements for full openings and nothing extra shall be paid for making such opening.

8.1.10. Rates: The rate shall include of all labour and materials involved and materials involved in al the operation described above.

8.2. Guarantee Bond

Ten years Guarantee Bond in prescribed proforma attached at Annexure-I herewith shall be submitted by the contractor which shall also be signed by both the specialized agency and contractor to meet their liability/liabilities under the guarantee bond. However, the sole responsibility about efficiency of water proofing treatment shall rest with the building contractor.5% (Five percent) of the cost of water proofing work shall be retained as security deposit and the amount so with held be released after ten years from the date of completion of the entire work under the agreement, if the performance of the work done is found satisfactory. However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer-in-Charge, if so decided by the Engineer-in-Charge. The security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

If any defect is noticed during the guarantee period, it shall be rectified by the Contractor within seven days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of the contractor.

9.0. SPECIFICATIONS FOR WATER SUPPLY, SEWERAGE AND DRAINAGE

9.1 GENERAL:

9.1.1 The scope of work comprises supply, laying, installation, commissioning and testing of water supply, sewerage and drainage works including sanitary fixtures and fittings. These works shall be executed as per the specifications of items attached and CPWD specifications (1996) volume IV & VI with correction slips up to the date of tender notice.

9.1.2 All the water supply and sanitary works shall be carried out by the licensed plumbers approved by the local authorities and skilled workman, experienced in the trade. No work shall be covered without approval of the client.

9.1.3 All the works shall be completely concealed either within shafts or chases or in fills and dropped ceilings, unless specifically shown in drawings or required otherwise.

- 9.1.4 All the works shall be adequately protected against corrosion, so that the whole work is free damage throughout.
- 9.1.5 The contractor shall be responsible for coordinating the work with works of other trades sufficiently ahead of time to avoid unnecessary hold-ups. Hangers, sleeves, recesses etc shall be left in time as the work proceeds whether or not these are shown in drawings.
- 9.1.6 The contractor shall submit as directed by the client, samples, manufactures drawings, equipment characteristics and capacity data etc. of all equipment, accessories, devices etc. that he proposes to use in the installation, to the client for approval.
- 9.1.7 Before the work is handed over, the contractor shall clean all fixtures removing all plaster, stickers. Rust stains and other foreign matter, leaving every part in acceptable condition and ready for use to the satisfactory of the client.
- 9.1.8 All sanitary wares and fittings shall conform to I.S standards. The contractor shall submit samples of all fittings and fixtures proposed to be used to the client for his approval. The approved samples shall remain with the client till the completion of the work.
- 9.1.9 All the workmanship shall confirm to Indian standard codes of practice. The fixing and finishing shall be neat, true to level and plumb. Manufacturer's instruction shall be followed closely regarding installation and commissioning.
- 9.1.10 All fixtures and accessories shall be fixed in accordance with a set pattern matching the tiles or interiors finish as per architectural requirements. Wherever necessary the fittings centered to dimensions and pattern desired.

9.2 TESTING AND ACCEPTANCE

9.2.1 Inspection before Installation

All pipes, fittings and appliances shall be inspected, before delivery at the site to see whether they conform to accepted standards. The materials shall be inspected on site before laying and shall be sounded to disclose cracks. Any defective items shall be clearly marked as rejected and forthwith removed from the site. The testing of materials shall be as per general specifications.

9.2.2 Testing of Mains after Laying (w/s)

After laying and jointing but before painting and covering, the main shall be slowly and carefully charged with water so that all air is

expelled from the main by providing a 25 mm inlet with a stop cock, allowed to stand full of water for some time, and then tested under pressure. The test pressure shall be 6kg/cm^2 or double the maximum working pressure, which is greater. The pressure shall be applied by means of a manually operated test pump or in a case of long mains of a large diameter, by a power driven test pump, provided that the pump is not left unattended. In either case due precaution shall be taken to ensure that the required test pressure is not exceeded. Pressure gauge shall be accurate and shall preferably have been calibrated before test. The pump having been stopped, the test pressure shall maintain itself without measurable loss for at least 2 hours. The end of the main shall be closed by fitting a water tight expanding plug and the plug shall be secured by struts to resist the end of the water pressure in the mains. The contractor shall rectify all leakage and restore damage done to the building and furniture at his own cost.

9.2.3. Testing of Stone ware pipes and CC Pipes

Pipes and joints shall be subjected to a test pressure of 1.5 m head of water at the highest point of section under test for two hours without developing leaks/falls in pressures. If any leakage is observed, it shall be made good and test repeated till achieving satisfactory results. Any defective pipes shall be replaced. The joints shall remain exposed until the testing has been completed.

9.2.4. Testing of soil waste and vent pipes

All soil, waste and vent pipes shall be tested by filling of the whole or part of stack with water. All openings for connections, etc., shall be suitably plugged. Contractor shall remove and replaced or remade to the entire satisfaction of the Engineer-in-charge. Water shall be retained in stack for a minimum period of 2 hours. After all plumbing fixtures are installed. Contractor shall apply the smoke test to the entire stack to the satisfaction of the Engineer-in-Charge.

9.3. Gradients

If not specified the minimum gradients of soil and drainage pipe line shall be as follows:

100 mm nominal dia.	:	1 in 35
150 mm nominal dia.	:	1 in 65
250 mm nominal dia.	:	1 in 120

9.4. GUARANTEE BOND

9.4.1. Two years guarantee bond in prescribed proforma attached herewith shall be submitted by the contractor which shall also be signed by both the specialised agency and the contractor to meet their liability/liabilities under the guarantee bond. However, the sole responsibility shall rest with the building contractor.

5% of the cost of this work shall be retained as security deposit and the amount so withheld would be released after two years from the date of completion of the entire work under the agreement, if the performance of the work done is found satisfactory. However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer-in-Charge, if so decided by the Engineer-in-Charge. The Security deposit mentioned elsewhere in this contract form. If any defects like leakage and manufacturing defects, etc., is noticed during the guarantee period, it shall be rectified by the contractor within seven days of the receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risks and cost of the contractor.

SECTION 4. SPECIAL CONDITIONS OF CONTRACTS (SCC)

1. ADVANCE PAYMENT

i. Mobilization Advance

- a) The Engineer shall make advance payment to the Contractor for mobilization and cash flow support of the amounts stated in the Contract Data, only against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a Nationalized Bank acceptable to the Engineer in amounts and currencies equal to the advance payment.
- b) An interest @ 10% per annum shall be charged on the advance payment.
- c) The Advance Payment shall not be released until the design is finalized and establishment of camp at work site including the mobilization of minimum manpower and all plant & machinery as required at the start of the project is completed.
- d) The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. The contractor shall ensure that the Bank Guarantee remains enforceable until the advance payment has been fully repaid and accordingly renew it, from time to time, until the advance payment has been fully repaid.
- e) If the terms of guarantee specify its expiry date, and the advance payment has not been repaid by the date then 28 days prior to the expiry date, the contractor shall extend the validity of the guarantee until the advance payment has been fully repaid.
- f) The advance payment shall be recovered from the Running Account Bill from the 1st interim payment and will be fully recovered prior to the last payment/ final bill.
- g) If the advance payment has not been repaid prior to the issue of the Taking over Certificate for the work or prior to termination under Section - 3 Clause -54 of (termination by Client), the balance advance is payable by the contractor to the Client.

ii. Secured Advance – As per CPWD Works Manual 2019, SOP No. 5/19.

- b. Secured Advances on the security of materials brought to site to be made to the contractors only for items which are to be used on work.
- c. The Engineer in Charge sanctions the secured advance up to an amount not exceeding 75% of the value of the materials as assessed by the Engineer-in-charge, or an amount not exceeding 75% of the

material element cost in the tendered rate of the finished item of work, whichever is lower.

- d. A formal agreement is drawn up with the contractor under which Government secures a lien on the materials and is safeguarded against losses due to the contractor postponing the execution of the work or due to shortage or misuse of the materials, and against the expense entailed for their proper watch and safe custody.
- e. Payment of such advances are made only on the certificate of an officer not below the rank of Assistant Engineer that:
 - (i) The quantities of materials for which the advances are made have actually been brought to site.
 - (ii) Full quantities of the materials, for which advance is to be made, are required by the contractor for use on items of work for which rates for finished work have been agreed upon.
 - (iii) The quality of materials is as per the specifications.
- f. Recoveries of advances are not postponed until the whole of the work entrusted to the contractor is completed. They are made from his/her bills for work done as the materials are used, the necessary deductions being made whenever the items of work in which they are used are billed for.
- g. Secured advance is to be granted only for non-perishable items. It can however, be granted for perishable items after the contractor indemnifies the Government through an insurance cover. The Engineer in Charge identifies whether an item is perishable or not.
- h. Statutory taxes like Income tax etc. are to be deducted from the secured advance payment.

4. Procedure for Payment:

2.1 The Contractor shall submit to the Engineer statements of the value of the work completed.

2.2 The Engineer shall check the Contractor's statement within 14 days and certify the amount to be paid to the Contractor as per contract payment schedule after taking into account any credit.

2.3 The value of work executed shall be determined by the Engineer.

2.4 The value of work executed shall comprise the value of the quantities of the items as per the mile stone and work programme attached to the contract.

2.5 The value of work executed shall include the valuation of Change in Scope (Variation) and Compensation Events, if any.

2.6 The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

2.7 Running payment shall be made as per the work done at site, which will be done after joint measurement from both the parties. Minimum running bill amount should not be less than Rs 50.00 lakhs.

5. Payments:

Payments shall be adjusted for deductions for retention, other recoveries in terms of the contract and taxes at source, as applicable under the law. The Client shall pay the Contractor the amounts as per the payment schedule attached to the contract with reference to the bill submitted by the contractor and certified by the Engineer.

6. Currencies:

All payments shall be made-in Indian Rupees.

7. Disputes:

That for the purpose of jurisdiction in the event of disputes if any of the Contracts would be deemed to have been entered in to within the State of Mizoram at Aizawl and it is agreed that only the courts of Aizawl shall have the exclusive Jurisdiction to entertain the dispute or any proceeding.

8. Procedure for Settlement of Disputes:

In case of any Dispute or difference arising between the Client & the contractor relating to any matter arising out of or connected with this agreement, such disputes or differences shall be settled in accordance with the Arbitration and Conciliation Act 1996.

9. Implementation Programme:

Before signing of the agreement, the successful bidder shall submit to the Client detail work programme for approval showing the general methods, arrangements, order and timing for all the activities in the works along with monthly cash flow forecast. The agreed work programme / milestones during such contract negotiation shall form part of the agreement.

An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the

progress achieved on the timing of the remaining work including any changes to the sequence of the activities.

The contractor shall submit to the Client, for approval, an updated Programme at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Programme within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue programme has been submitted.

The Client's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Client again at any time. A revised Programme is to show the effect of Variations and Compensation Events.

10. Securities:

The Performance Security shall be provided to the Client no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Client, and denominated in Indian Rupees. The Performance Security shall be valid up to the **end of defect liability period**.

11. Cost of Repairs:

Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

12. Termination:

- 10.1 The Client may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 10.2 Fundamental breaches of Contract include, but shall not be limited to the following:
 - (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Programme and the stoppage has not been authorized by the Engineer;
 - (b) the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

- (c) the Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- (d) the Contractor does not maintain a security which is required;
- (e) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
- (f) if the Contractor, in the judgment of the Client has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition."

10.3 Notwithstanding the above, the Client may terminate the Contract for convenience.

10.4 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site, as soon as reasonably possible.

13. **Contract Data**

- i. The following documents are also part of the Contract:
 - The Methodology and Program of construction.
 - The Schedule of Key and Critical equipment to be deployed on the work as per Agreed program of construction.
 - Notice inviting bid including all corrigendum's/ addendum/ additional conditions/ specifications / drawings etc. if any issued at the time of invitation of bid and acceptance thereof.

- ii. The Employer is: Urban Development & Poverty Alleviation Department
Phone No: 0389-2333815
- iii. Authorized Representative: Director, UD & PA Department, Mizoram, Aizawl
- iv. Engineer : Executive Engineer, UD & PA Department, Mizoram, Aizawl
- v. The Name and identification number of the Contract is: **Waterbody Rejuvenation of Huliana Tuikhur at Saitual Venglai** and the identification number is **Group No 16** of **No. 01/DTE(UD&PA)/AMRUT/2024-2025**

- 12. The Date of Commencement shall be the date of issue of notice to proceed with the work.
- 13. The Intended Completion Date for the whole of the Works is six (6) months reckoned from the date of commencement. This period includes the time period for survey, investigation and detail design as per the scope of services.
- 14. The Defects Liability Period is 1 (one) years from the certified date of completion of works.
- 15. The Site Possession Date shall be simultaneously with the notice to proceed with the work.
- 16. The currency of the Contract is Indian Rupees.
- 17. The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to any adjustment.
- 18. Performance Security (performance guarantee) shall be for 5% per cent of Contract price to be submitted prior to signing the Contract. Performance Security shall be released within 30 days after the certified date of Completion.
- 19. The proportion of payments retained (retention money or security deposit) shall be 5 % from each bill to be released within 30 days after the expiry of the defect liability period.

20. TECHNICAL SPECIFICATIONS

- 20.1** The base preparation shall conform to Specification and shall be read in conjunction with other documents of the bid.

20.2 Standard specification for Construction shall be in accordance with the specification mentioned in the bid documents (EOI).

21. SCOPE OF WORK

The Scope of work shall be in conformity with the terms, conditions and scope of works mentioned in the bid document (EOI), it shall be understood that construction work for rejuvenation of waterbody shall be carried out for its completion of the project.

22. Reference Points:

Contractor shall provide permanent bench marks, flags tops and other reference points for the proper execution of work and these shall be preserved till end of the work. All such reference points shall be in relation to the levels and locations, given in the Architectural and Plumbing drawings.

23. Facilities To Be Provided By Working Contractors

The Contractor have to provide the following facilities to UD&PA and the cost of these facilities shall be deemed to be included in the rates quoted by them. All these facilities including consumables are to be kept intact/ operational during the tenancy of the contract i.e. till completion or commissioning whichever is earlier, after which these facilities shall be the property of the contractor.

- a. A suitably furnished site office accommodation equipped with basic facilities such as Furnitures, Telephone, Fax, Internet/ broadband connection, photocopier, computer (with latest software of MS Office, MS Projects etc. loaded), laser printer, UPS along with computer operator, regular electricity and drinking water supply along with proper toilets etc. shall be provided, properly maintained and kept in running condition.
- b. The contractor shall make sufficient arrangement for photography/ videography preferably by maintaining the camera/ video camera at site so that photographs/ video films can be taken of any specific activity at any point of time.

Note:- (In case the contractors do not provide the above facilities and the same are arranged by UD&PA, the cost of these facilities shall be recovered from the bill of the contractors. The facilities shall be provided by only working contractors at that time.)

- d. A four wheeled vehicle in good running condition with driver and consumables/maintenance shall be provided at site for UD&PA Engineering staff/Client for necessary supervision of the works till completion of the project.

A. ADDITIONAL CONDITIONS

- A.1. Before tendering, the tenderer shall inspect the site of work and shall fully acquaint himself about the conditions with regard to site, its approach from main road, nature of soil, availability of materials, suitable location of godowns, stores, labour huts & location of Batching Plant, etc., the extent of leads and lifts involved in the work (Over the entire duration of contract) including local conditions, traffic restrictions, obstructions and other conditions, and restriction by Authorities as required for satisfactory executions of work. He should take into considerations all such factors and contingencies, while quoting his rates. No claim whatsoever shall be entertained by the Department on this account.
- A.2. The Contractor(s) shall get himself acquainted with nature and extent of the work and satisfy himself about the availability of materials from kiln or approved quarries for collection and conveyance of materials required for construction.
- A.3. ~~The Contractor(s) shall study the soil investigation report for the site available in the Office of 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.~~
- A.4. The Contractor(s) shall give to the municipality, Police and other authorities all necessary notice etc. that may be required by law and obtain all requisite licenses for temporary obstruction, enclosures, etc., and pay all fees, taxes and charges which may be livable on account of his operations in executing the contract. He shall make good any damage to adjoining property, whether public or private and shall supply and maintain lights either for illumination or for cautioning the public required at night.
- A.5. The rates for various items quoted by the tenderer shall apply for all the floors including terrace unless otherwise stated in the nomenclature of the items in the schedule of quantities attached with the tender.
- A.6. No payment shall made to the Contractor for any damage caused by rain, snowfall, flood or any other natural causes whatsoever during the execution of work. The damage to work shall be made good by the contractor at his own cost and no claim in the matter shall be entertained.
- A.7. Royalty at the prevalent rates whenever payable shall have to be paid by the contractor on the boulders, metal, shingles, sands etc., or any other materials collected by him for the work direct to the revenue

authority of the District/State Govt. concerned and nothing extra shall be paid by the Department for the same.

- A.8. Steel form work (Centering and shuttering) conforming to sound engineering practice as approved by Engineer-In-Charge, shall be used. However, various requirements specified for timber form work in C.P.W.D. Specification 1996 Vol. I to VI and revised Specification 2002 for cement mortar, cement concrete and RCC works with up to date correction slips shall be followed in case of steel form works as well. Nothing extra shall be payable for using steel formwork.
- A.9. The chemically treated timber, shutters where specified, shall be got treated by an approved firm as per approved process with a preservative belonging to Type-IV (water soluble fixed type) and the absorption and other details shall be as prescribed in I.S. 401 (latest edition). The Contractor(s) shall produce necessary certificates from the firm to the effect that the lot of timber/shutters brought at site has been satisfactorily treated by the firm and shall get stamped with proper hammer mark showing the name of the firm.
- A.10. For purpose of para 9.3 of C.P.W.D. Specifications Vol. III the portion of timber frame in the plastered grooves/rebates wherever such grooves are provided and are in contact with mortar, shall be treated adequately. Such grooves/rebates shall invariably be given a coat of approved wood primer before masonry is plastered.
- A.11. The Contractor must study the specification and conditions carefully before tendering.
- A.12. The Contractor shall have to make approaches to the site, if so required and keep them in good conditions for transportation of labour and materials as well as inspection of works by the Engineer-In-Charge. Nothing extra shall be paid on this account.
- A.13. The work shall be carried out in such manner so as not to interfere or effect or disturb other works, being executed by other agencies, if any.
- A.14. Any damage done by the contractor to any existing work shall be made good by him at his own cost. Otherwise the same shall be got done at his risk and cost.
- A.15. The work shall be carried out in the manner complying in all respects with the requirement of relevant bye-laws of the local bodies under the jurisdiction of which the work is to be executed and nothing extra shall be paid on this account.

- A16. For completing the work in time, the contractor might be required to work in two or more shift including night shift and no claims whatsoever shall be entertained on this account, notwithstanding the fact that the contractor will have to pay to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour regulation and the agreement entered upon and no extra amount for any other reason.
- A17. The Contractor shall make his own arrangements for obtaining electric connection(s), if required, and make necessary payments directly to the department concerned. The department will however make all reasonable recommendations to the authority concerned in this regard.
- A18. The Contractor or his authorized representative should always be available at the site of work to take instructions from department officers and ensure proper execution of work. No work should be done in the absence of such authorized representative.
- A19. The contractor shall maintain in good conditions all work executed till the completion of entire work allotted to the Contractor.
- A20. In case the proposed building is to be constructed in a plot where already some building is occupied, the contractor will take all safety measures for the safety of people using the building. Nothing extra shall be paid on this account.
- A21. The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including signs markings, flags, lights and flagman as necessary, at either end of the excavation/embankment and at such intermediate points, as directed by the engineer-in-charge for the proper identification of construction area. He shall be responsible for all damage and accidents cause due to negligence on his part.
- A22. The Malba/Garbage removed from the site should be disposed off by the contractor at suitable place as directed by the Engineer-In-Charge.
- A23. All work and material broke and left upon the ground by the contractor or by his orders for the purpose of forming part of the work, are to be considered the property of the Governor of Mizoram and the same are not to be removed or taken away by the contractor or by any other person without a special license and consent in writing of the Engineer-In-Charge but the Governor of Mizoram is not to be held in any way responsible for any loss or damage which may happen to or

in respect of any such work or material either by the same being lost or damaged by weather or otherwise.

- A24. The Contractor will be responsible to provide potable and safe drinking water to labour engaged in execution of work.
- A25. The rates for all items of work, unless clearly specified otherwise, shall include the cost of all labour, material, the watering and other input involved in the execution of the item. Payment for centering / shuttering however, if required to be done for heights greater than 3.5 metres shall be admissible at rates arrived at in accordance with clause 12 of the agreement if not already specified.
- A26. The Contractor shall construct suitable godown at the site of work for storing the materials safe against damage due to sun, rain, dampness, fire, theft, etc. He shall also employ necessary watch and ward establishment for the purpose and no extra claim whatsoever shall be entertained on this account.
- A27. All items involving prefabricated components of Aluminium, M.S. Sectional Windows, pressed steel frames, etc. shall be sample tested and approved by the Engineer-In-Charge before the Bulk order is placed.
- A28. Contractor may be required to execute the work under foul position. The decision of the engineer-in-charge whether the position is foul or not shall be final and binding on the contractor.
- A29. Transparent sheet glass conforming to IS: 1761 – 1960 shall be used for glazing, thickness being governed as per CPWD specifications unless otherwise specified in the item. The Contractor has to Quote rate for windows etc. accordingly nothing extra shall be payable.
- A30. The P or S trap in WCs shall be of deep water seal type and shall have minimum water seal of 75 mm. Floor traps shall have a minimum water seal of 50mm.
- A31. The contractor shall execute the difference items simultaneously, as far as possible, so that minimum breakage and repairs are involved.
- A32. Other agencies will also simultaneously execute the works like air-conditioning, fire fighting, horticulture or external service and other building works for the same project along with this work in particular. The contractor shall afford necessary facilities for the same. No claim in the matter shall be entertained.

- A33. Some restrictions may be imposed by the security staff, etc, on the working and / or movement of labourers, materials, etc. The contractor shall be bound to follow all such restrictions, instructions and nothing extra shall be payable on this account.
- A34. a) The Contractor shall be responsible for the protection of sanitary, water supply, drainage fittings, other fittings and fixtures against pilferages and breakage during the period of installation and thereafter until the building is handed over.
b) The works of water supply, internal sanitary installations and drainage works etc. shall be carried out as per local municipal corporations or such local body bye-laws and the contractor shall produce necessary completion certificates wherever required, from such authorities after completion of works. The work is to be carried out through licensed plumbing and sanitary installation agency.
c) Water tanks, taps, pipes, fittings and accessories should conform to bye-laws as specifications of the municipal body/Corporation. The Contractor should engage licensed plumbers for the work and get the materials (fixtures, Fitting) tested by the municipal body/corporation authorities, wherever required at his own cost and nothing extra will be payable.
- A35. The contractor shall give a performance test such as Smoke test/pressure test of the entire installation(s) as per standard specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
- A36. Nothing extra shall be paid for making holes in walls/RCC members, etc. for fixing suspenders and frame works and making good to restore the original surface of the building.
- A37. ~~Payment for work in different floors, extra for items for RCC work, brick work, concrete work and stone masonry above different floor levels shall be made at rates provided for these items. For operations of these rates, the floor level shall be considered as the top of main structural RCC slab in that floor viz. Top of RCC slab in main room and not the top of any sunken or depressed floor for lavatory slabs.~~
- A38. **(i) Coarse aggregate/stone ballast/Chips:**
Wherever Delhi quartzite stone ballast or chips are specified in the CPWD Specifications, hard stone ballast or chips obtained locally from quarries approved by the Engineer-In-Charge and conforming to paras 4.1.2.1 and 4.1.2.6 of CPWD Specification Volume-II shall be used.
(ii) Fine Aggregate/Sand:
Wherever special sand has been specified in the CPWD Specifications, coarse sand or fine sand obtained locally from sources approved by the Engineer-in-Charge and conforming to paras 3.1.4 and 3.1.4.4 of

CPWD Specifications (Vol. – II) shall be used. The maximum quantity of silt content shall not exceed eight (8) percent.

Medium sand shall be natural pit or river sand, clean sharp, strong and free from excessive deleterious mater such as iron pyrites, coal, mica, slate or similar contaminated materials, clay alkali soft fragments and sea shell, organic impurities, etc. it shall not contain more than eight (8) percent of silt as determined by field test with measuring cylinder. The method of determining silt content test shall be as per CPWD Specifications and as amended/corrected up-to-dates. Sand containing more than the above allowable percentage of silt shall be washed so as to bring the silt content within the allowable limit.

Medium sand shall comprise 50% of coarse sand within the limits of grading Zone: III and 50% of fine sand within the limits of grading Zone: IV as given in Table, under para 3.1.4 of CPWD Specifications Vol. II.

A39. ADDITIONAL CONDITIONS TO BE INCORPORATED IN AGREEMENTS WHERE DEPARTMENTAL ISSUE OF CEMENT AND STEEL IS NOT STIPULATED.

A.39.A CONDITIONS FOR CEMENT

1. The contractor shall procure 33 grade (Conforming to IS:269) or 43 grade (conforming to IS:8112) ordinary Portland cement, as required in the work, from reputed manufacturers of Cement, having a production of 1 million tons or more such as A.C.C, L&T, J.P Rewa, Vikram, Valley Strong, Star Cement and cement corporation of India, etc. i.e agencies approved by ministry of industry, Govt. of India, and holding license to used ISI certification mark for their product. The tenderers may also submit a list of names of cement manufacturers which they proposed to used in works. The tenderers accepting authority reserves right to accept or reject name (s) of Cement manufacturer (s) which the tenderers proposed to used in the work. No change in the tender rates will be accepted if the tender accepting authority does not accept the list of Cement manufacturers, given by the tenderers, fully or partially. Supply of cement shall be taken in 50 kg 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 confirmed 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.
2. The Cement shall be bought at site in bulk supply of approximately 20 tons or as decided by the Engineer-in-Charge.
3. The Cement godown of the capacity to store a minimum of 200 bags of cement 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 the cement godown the keys of one lock shall remain with the Engineer-In-Charge or his authorized representative and the key of the other lock shall remain with the contractor. The Contractor shall be responsible the watch & ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-In-Charge at any time.

4. The contractor shall supply free of charge the cement required for testing. The cost of tests shall be borne by the contractor/Department in the manner indicated below:

- (i) By the contractor, if the results show that the cement does not conform to relevant BIS codes.
- (ii) By the Department, if the results show that the cement conforms to relevant BIS codes.

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 42 of the CPWD General Conditions of Contract 2010 and shall be governed by conditions laid down therein.

6. 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.

A39.B CONDITIONS FOR STEEL:

1. The contractor shall procure steel reinforcement bars conforming to relevant BIS Codes from main producers as approved by the Ministry of Steel and Secondary producers or re-roller having valid BIS codes. For TMT Bars conforming to relevant BIS codes, procurement shall be made from main producers and secondary producers having valid license. 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. Samples shall also be taken and got tested by the engineer-in charge as per the provisions in this regard in relevant BIS codes. In case the test result indicate that the steel arranged by the contractor does not confirm to BIS codes, the same shall stand rejected and shall be removed from the site of work by the contractor at his own cost within a week's time from written orders from the Engineer-In-Charge to do so.
2. The Steel Reinforcement shall be brought to the site in bulk supply of 20 tonnes or more or as decided by the Engineer-in-Charge.
3. The Steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent 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.

4. 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 frequency not less than that specified below:

Size of Bar	For Consignment Below 100 Tonnes	For Consignment over 100 tonnes
Under 10mm dia.	One Sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof
10mm – 16mm dia.	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof
Over 16 mm dia.	One sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof

5. The Contractor shall supply free of charge the steel required for testing. The cost of tests shall be borne by the contractor/department in the manner indicated below:
- i) By the Contractor, if the results show that the steel does not conform to relevant BIS codes.
 - ii) By the department, if the results show that the steel conforms to relevant BIS codes.
6. 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 per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein.
7. Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-Charge.

C.P.W.D. Contractor's Labour Regulations

1. SHORT TITLE

These regulations may be called the C.P.W.D./PWD (DA) Contractors Labour Regulations.

2. DEFINITIONS

- i) **Workman** means any person employed by C.P.W.D./PWD (DA) or its contractor directly or indirectly through a subcontractor with or without the knowledge of the Central Public Works Department/PWD (DA) to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person :-
- a) Who is employed mainly in a managerial or administrative capacity : or
 - b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature: or
 - c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer. No person below the age of 14 years shall be employed to act as a workman.
- ii) **Fair Wages** means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.
- iii) **Contractors** shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.
- iv) **Wages** shall have the same meaning as defined in the Payment of Wages Act.

3. i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.
- ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.
- iii) a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.
- b) Where the minimum wages prescribed by the Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.
- c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. DISPLAY OF NOTICE REGARDING WAGES ETC.

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information as per Appendix 'III'.

5. PAYMENT OF WAGES

- i) The contractor shall fix wage periods in respect of which wages shall be payable.
- ii) No wage period shall exceed one month.

- iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- iv) Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- vi) Wages due to every worker shall be paid to him direct or to other person authorised by him in this behalf.
- vii) All wages shall be paid in current coin or currency or in both.
- viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.
- ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgment.
- x) It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Junior Engineer or any other authorised representative of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.
- xi) The contractor shall obtain from the Junior Engineer or any other authorised representative of the Engineer-in-Charge as the case may be, a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form:-

"Certified that the amount shown in column Nohas been paid to the workman concerned in my presence on at"

6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

- (i) The wages of a worker shall be paid to him without any deduction of any kind except the following:-
- (a) Fines
 - (b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
 - (c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.
 - (d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
 - (e) Any other deduction which the Central Government may from time to time allow.
- (ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.
- Note** :- An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-X.
- (iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- (iv) The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.
- (v) No fine imposed on any worker shall be recovered from him by instalment, or after the expiry of sixty days from the date on which it was imposed.
- (vi) Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7. LABOUR RECORDS

- (i) The contractor shall maintain a **Register of persons employed** on work on contract in Form XIII of the CL (R&A) Central Rules 1971 (Appendix IV)
- (ii) The contractor shall maintain a **Muster Roll** register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix V).
- (iii) The contractor shall maintain a **Wage Register** in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VI)
- (iv) **Register of accident** - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:
 - a) Full particulars of the labourers who met with accident.
 - b) Rate of Wages.
 - c) Sex
 - d) Age
 - e) Nature of accident and cause of accident.
 - F) Time and date of accident.
 - g) Date and time when admitted in Hospital,
 - h) Date of discharge from the Hospital.
 - i) Period of treatment and result of treatment.
 - j) Percentage of loss of earning capacity and disability as assessed by Medical Officer.
 - k) Claim required to be paid under Workmen's Compensation Act.
 - l) Date of payment of compensation.
 - m) Amount paid with details of the person to whom the same was paid.
 - n) Authority by whom the compensation was assessed.
 - o) Remarks
- v) The contractor shall maintain a **Register of Fines** in the Form XII of the CL (R&A) Rules 1971 (Appendix-XI) . The contractor shall display in a good

condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X)

- vi) The contractor shall maintain a **Register of deductions for damage or loss** in Form XX of the CL (R&A) Rules 1971 (Appendix-XII)
- vii) The contractor shall maintain a **Register of Advances** in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIII)
- viii) The contractor shall maintain a **Register of Overtime** in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIV)

8. ATTENDANCE CARD-CUM-WAGE SLIP

- i) The contractor shall issue an **Attendance card-cum-wage slip** to each workman employed by him in the specimen form at (Appendix-VII)
- ii) The card shall be valid for each wage period.
- iii) The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- iv) The card shall remain in possession of the worker during the wage period under reference.
- v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- vi) The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. EMPLOYMENT CARD

The contractor shall issue an **Employment Card** in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix-VIII).

10. SERVICE CERTIFICATE

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a **Service certificate** in Form XV of the CL (R&A) Central Rules 1971 (Appendix-IX).

11. PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by

the Engineer-in-Charge or Labour Officer or any other officers authorised by the Ministry of Urban Development in this behalf.

12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY

The Labour Officer or any person authorised by Central Government on their behalf shall have power to make enquires with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

13. REPORT OF LABOUR OFFICER

The Labour Officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Executive Engineer concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Executive Engineer after the Superintending Engineer has given his decision on such appeal.

- i) The Executive Engineer shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer or the Superintending Engineer as the case may be.

14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorised may appeal against such decision to the Superintending Engineer concerned within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the Executive Engineer concerned but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER

- i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by:-
 - a) An officer of a registered trade union of which he is a member.
 - b) An officer of a federation of trade unions to which the trade union referred to in clause (a) is affiliated.
 - c) Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with

the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.

- ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :-
 - a) An officer of an association of employers of which he is a member.
 - b) An officer of a federation of associations of employers to which association referred to in clause (a) is affiliated.
 - c) Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer is engaged.
- (iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

16. INSPECTION OF BOOKS AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorised by the Central Government on his behalf.

17. SUBMISSIONS OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

18. AMENDMENTS

The Central Government may from time to time add to or amend the regulations and on any question as to the application/Interpretation or effect of those regulations the decision of the Superintending Engineer concerned shall be final.

C.P.W.D. SAFETY CODE

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical.)
2. Scaffolding of staging more than 3.6 m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends there of with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3ft.)
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11½") for ladder upto and including 3 m. (10 ft.) in length. For longer ladders, this width should be increased at least $\frac{1}{4}$ " for each additional 30 cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.

The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with

the consent of the contractor, be paid to compensate any claim by any such person.

6. **(a) Excavation and Trenching** - All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100 ft.) in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5 m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m. (5ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

(b) Safety Measures for digging bore holes:-

- (i) Deleted

7. **Demolition** - Deleted

8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned:- The following safety equipment shall invariably be provided.

- (i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- (ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.
- (iii) Those engaged in welding works shall be provided with welder's protective eyeshields.
- (iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- (v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated atleast for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.

In addition, the contractor shall ensure that the following safety measure are adhered to :-

- (a) **Deleted**
- (b) **Deleted**
- (c) **Deleted**
- (d) **Deleted**
- (e) **Deleted**
- (f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public during works at the site.
- (g) **Deleted**
- (h) **Deleted**
- (i) **Deleted**
- (j) **Deleted**
- (k) **Deleted**
- (l) **Deleted**
- (m) **Deleted**
- (n) **Deleted**
- (o) If a man has received a physical injury, he should be brought out of the Construction site immediately and adequate medical aid should be provided to him.
- (p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
- (vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:-
 - (a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
 - (b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.

- (c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.

9. An additional clause (viii)(i) of Central Public Works Department Safety Code (iv) the Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use :

- (i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
- (ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.
- (iv) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
- (iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
- (v) Overall shall be worn by working painters during the whole of working period.
- (vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
- (vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority of C.P.W.D PWD (DA).
- (viii) C.P.W.D./PWD (DA) may require, when necessary medical examination of workers.
- (ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

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

11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions :-

- (i) (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
- (b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
- (ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
- (iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- (iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineering-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.

12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced.

When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.
16. Notwithstanding the above clauses from (1) to (15), there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

Model Rules for the Protection of Health and Sanitary Arrangements for Workers Employed by Central P.W.D. or its Contractors

1. APPLICATION

These rules shall apply to all buildings and construction works in charge of Central Public Works Department/PWD (DA) in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

- (i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- (ii) The first-aid box shall be distinctly marked with a red cross on white background and shall contain the following equipment:-
 - (a) For work places in which the number of contract labour employed does not exceed 50-

Each first-aid box shall contain the following equipments :-

- 1. 6 small sterilised dressings.
- 2. 3 medium size sterilised dressings.
- 3. 3 large size sterilised dressings.
- 4. 3 large sterilised burn dressings.
- 5. 1 (30 ml.) bottle containing a two per cent alcoholic solution of iodine.
- 6. 1 (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
- 7. 1 snakebite lancet.
- 8. 1 (30 gms.) bottle of potassium permanganate crystals.
- 9. 1 pair scissors.

10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
 11. 1 bottle containing 100 tablets (each of 5 gms.) of aspirin.
 12. Ointment for burns.
 13. A bottle of suitable surgical antiseptic solution.
- (b) For work places in which the number of contract labour exceed 50. Each first-aid box shall contain the following equipments.
1. 12 small sterilised dressings.
 2. 6 medium size sterilised dressings.
 3. 6 large size sterilised dressings.
 4. 6 large size sterilised burn dressings.
 5. 6 (15 gms.) packets sterilised cotton wool.
 6. 1 (60 ml.) bottle containing a two per cent alcoholic solution iodine.
 7. 1 (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 8. 1 roll of adhesive plaster.
 9. 1 snake bite lancet.
 10. 1 (30 gms.) bottle of potassium permanganate crystals.
 11. 1 pair scissors.
 12. 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institutes /Government of India.
 13. A bottle containing 100 tablets (each of 5 gms.) of aspirin.
 14. Ointment for burns.
 15. A bottle of suitable surgical antiseptic solution.
- (iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- (iv) Nothing except the prescribed contents shall be kept in the First-aid box.

- (v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
- (vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.
- (vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
- (viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

- (i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- (ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- (iii) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.
- (iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

- (i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- (ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.

- (iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

- (i) Latrines shall be provided in every work place on the following scale namely :-

- (a) Where female are employed, there shall be at least one latrine for every 25 females.

- (b) Where males are employed, there shall be at least one latrine for every 25 males.

Provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100, and one for every 50 thereafter.

- (ii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- (iii) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.
- (iv) (a) Where workers of both sexes are employed, there shall be displayed outside
each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.
(b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- (v) There shall be at least one urinal for male workers upto 50 and one for female workers upto fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.
- (vi) (a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
(b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.

- (vii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- (viii) Disposal of excreta :- Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).
- (ix) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sq.m. (6 sft) per head. Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

- (i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19H (ii) a,b & c.
- (ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- (iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.

- (iv) The contractor shall provide one ayaa to look after the children in the creche when the number of women workers does not exceed 50 and two when the number of women workers exceeds 50.
- (v) The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

- (i) In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labours numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- (ii) The canteen shall be maintained by the contractor in an efficient manner.
- (iii) The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- (iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- (v) The floor shall be made of smooth and impervious materials and inside walls shall be limewashed or colour washed at least once in each year. Provided that the inside walls of the kitchen shall be lime-washed every four months.
- (vi) The premises of the canteen shall be maintained in a clean and sanitary condition.
- (vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- (viii) Suitable arrangements shall be made for the collection and disposal of garbage.
- (ix) The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.
- (x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre (10 sqft) per diner to be accommodated as prescribed in sub-Rule 9.
- (xi) (a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.

(b) Washing places for women shall be separate and screened to secure privacy.

- (xii) Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.
- (xiii) (a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment necessary for the efficient running of the canteen.
2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
- (b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
2. A service counter, if provided, shall have top of smooth and impervious material.
3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.
- (xiv) The food stuffs and other items to be served in the canteen shall be in with the normal habits of the contract labour.
- (xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit, No loss' and shall be conspicuously displayed in the canteen.
- (xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:-
 - (a) The rent of land and building.
 - (b) The depreciation and maintenance charges for the building and equipments provided for the canteen.
 - (c) The cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils.
 - (d) The water charges and other charges incurred for lighting and ventilation.
 - (e) The interest and amounts spent on the provision and maintenance of equipments provided for the canteen.

(xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

11. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

12. AMENDMENTS

Government may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

SECTION 5. FORMS OF BIDS

Contractor's Bid

BID FOR [INSERT NAME OF PROPOSED WORK]

To:

[Insert name of bid inviting authority who shall receive bid on behalf of the Client]

Address: [inset office address]

Dear Sir,

Having examined the bidding documents including addendum, I / we offer to execute the Works described above in accordance with the conditions of contract, specifications, accepted tendered drawing, and Payment schedule accompanying this Bid for the Contract Price as tendered in our price bid document separately.

This Bid and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the highest or any Bid you receive.

We undertake that, in competing for (and if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

We hereby confirm that this Bid complies with the Bid Validity and Bid Security required by the Bidding documents.

Yours faithfully,

Authorized Signature:

Name & Title of Signatory: _____

Name of Bidder : _____

Address : _____

Sample Format For Power Of Attorney/ Letter Of Authorization

Know all men by these presents, We..... (name of the Bidder/Firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr./Ms (name),.....son/daughter/wife of.....and presently residing at....., who is presently employed with us as our true and lawful attorney (hereinafter referred to as the "Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our BID(s) for the.....[name of Work] proposed by the.....(name of Department) including but not limited to signing and submission of all BIDs, and other documents and writings, participate in conferences/meetings and providing information/responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts and undertakings consequent to acceptance of our bid[s], and generally dealing with the Authority in all matters in connection with or relating to or arising out of our bid for the said Work[s] and/or upon award thereof to us and/or till the entering into of the contract with the Authority.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

In witness whereof we,....., the above named principal have executed this power of attorney on this.....day of....., 20____

For
(Signature)
(Name, Title and Address)

Witnesses:
1. Accepted
2. Accepted

.....
(Signature)
(Name, Title and Address of the Attorney)

(Notarised)

Person identified by me/ personally appeared before me/
signed before me/Attested/Authenticated*

(*Notary to specify as applicable)

(Signature, Name and Address of the Notary)

Seal of the Notary

Registration Number of the Notary

Date:_____

- Notes: **1.** The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
- 2.** Also, wherever required, the BIDDER should submit for verification the extract of the charter documents and documents such as a resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the BIDDER.

SECTION 6. FORMS OF SECURITIES

Sample Format For Evidence Of Access To Or Availability Of Credit Facilities

BANK CERTIFICATE

This is to certify that M/s. is a reputed company with a good financial standing.

If the contract for the work, namely “[insert name of the work]” is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. to meet their working capital requirements for executing the above contract.

Name of Bank

Senior Bank Manager

Address of the Bank

Affidavit
(Stamp paper)

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.

2. The undersigned also hereby certifies that neither our firm M/s..... have not abandoned any work on building in India nor any contract awarded to us by the State of MIZORAM for such works have been rescinded, during last five years prior to the date of this bid.

3. The undersigned hereby authorize(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.

4. The undersigned understand and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Department/ Project implementing agency.

(Signed by an Authorized Officer of the Firm)

Title of Officer:

Name of Firm:

Date:

Sample Format Of Earnest Money (Bank Guarantee)

WHEREAS, contractor (Name of contractor) (Hereinafter called "the Contractor") has submitted his tender dated (date) for the construction of (name of work) (Hereinafter called "the Tender")

KNOW ALL PEOPLE by these presents that we (name of bank) having our registered office at (here after called "the Bank" are bound unto (Name and division of Executive Engineer) (hereinafter called "the officer-in-charge") in the sum of Rs. (Rs. In words) for which payment well and truly to be made to the said Executive Engineer the Bank binds itself, his successors and assigns by these presents.

SEALED with the common Seal of the said Bank this Day of 20.....

THE CONDITIONS of this obligation are :

- (1) If after tender opening the contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender;
- (2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:
 - a) Fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required; Or
 - b) Fails to refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and instructions to contractor, Or
 - c) Fails to refuses to start the work, in accordance with the provisions of the contract and Instructions to contractor, Or
 - d) Fails or refuses to submit fresh Bank Guarantee of an equal amount of this Bank Guarantee, against Security Deposit after award of contract.

We undertake to pay to the Officer-in-Charge up to the above upon receipt of his first written demand, without the Officer-in-Charge having substantiates his demand, provided that in his demand the Officer-in-Charge will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date * after the deadline for submission of tender as such deadline is stated in the Instructions to contractor or as it may be extended by the Officer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

Date

WITNESS

(SIGNATURE, NAME AND ADDRESS)

Date should be worked out on the basis of validity period of 6 months from last date of receipt of tender.

SIGNATURE OF THE BANK

SEAL

SECTION 7. FORM OF ACCEPTANCE, AGREEMENT etc

Sample Format of Letter of Acceptance

GOVERNMENT OF MIZORAM
OFFICE OF THE UD&PA DEPARTMENT

No. _____

To.

(Name of Contractor & Address)

Subject: (Name of Work) _____

Dear Sir,

1. Your item rate tender for the above mentioned work has been accepted on behalf of the Governor of Mizoram at your tendered amount of Rs. _____/- (Rupees _____) only which is ____ % (_____ decimal _____ percent) only below/above the estimated cost of Rs. _____/- (Rupees _____) only.
2. Your letter No _____ date __ / __ / __ regarding extending the validity and for getting the Registration of VAT in Mizoram state shall form part of the agreement.
3. You are requested to submit performance Guarantee of Rs. _____/- (Rupees _____) only within 15 (fifteen) days of issue of this letter. The Performance Guarantee shall be in any of the prescribed form as provided in Clause I of the General Condition of Contract 20__ for CPWD works and shall be valid up to the stipulated period of completion plus 60 days beyond that.
4. You shall be aware of VAT/GST rules in Mizoram state and shall be recovered at source from the bill. You are also registered with Mizoram Government under VAT/GST on work contract.
5. On receipt of prescribed performance guarantee, necessary letter to commence the work shall be issued and site of work shall be handed over to you thereafter.

6. Please note that the time allowed for carrying out the work as entered in the tender is _____ (in words_ _ _ _ _ _ _ _ _ _) days/months and will be reckoned after 10 days from the date of issue of this letter.

You are, further requested to immediately submit the physical milestone(s) for progress of work. Such physical milestones duly approved by the department shall form part of the agreement.

for & on behalf of the Governor of Mizoram

Copy to

Sample format to Notice to proceed with the work

(Letter head of the Client)

_____ (date)

To

_____ (name and address of the Contractor)

Dear Sirs:

Pursuant to your furnishing the requisite security as stipulated in ITB and signing of the contract agreement for the work "[insert name of the work]" on turnkey basis involving design and execution of works @ a Bid Price of Rs._____, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and
Title of signatory authorized
to sign on behalf of Client)

Sample format for Agreement Form

This agreement, made the _____ day of _____ 20...., between _____ [name and address of Client] (hereinafter called "the Client)" of the one part and _____ [name and address of contractor] (hereinafter called "the Contractor") of the other part.

Whereas the Client is desirous that the Contractor "[insert name of the work], [name and identification number of Contract] (hereinafter called "the Works") and the Client has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein, at a contract price of Rs.....

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Client to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Client to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Client hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - 1) Letter of Acceptance
 - 2) Notice to proceed with the works
 - 3) Contractor's Bid

- 4) Contract Data
- 5) Conditions of contract (including Special Conditions of Contract)
- 6) Specifications
- 7) Bill of Quantities (optional)
- 8) Payment Schedule.
- 9) Any other document listed in the Contract Data as forming part of the contract.

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of _____
was here unto affixed in the presence of:
Signed, Sealed and Delivered by the said

in the presence of:

Binding Signature of Client

Binding Signature of Contractor

Sample Format For Performance Guarantee

To

_____ [name of Client]
_____ [address of Client]

WHEREAS _____ [name and address of Contractor] (here after called "the Contractor") has undertaken, in pursuance of Contract No. ___ dated _____ to execute _____ [name of Contract and brief description of Works] (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligation in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, up to a total of [amount of guarantee]*(in words), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the

Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 60 days from the date of stipulated expiry of the Completion period.

Signature and Seal of the guarantor

Name of Bank

Address

Date _____

An amount shall be inserted by the Guarantor, representing the percentage the Contract Price specified in the Contract including additional security for unbalanced Bids, if any and denominated in Indian Rupees.

Sample Format Of Indenture For Secured Advances

THIS INDENTURE made the.....day ofBETWEEN

hereinafter called the Contractor (which expression shall, where the context so admits or implies, be deemed to include his executor, administrators and assigns on the one part) and the Clients (which expression shall, where the contexts so admits or implies, be deemed to include its successors in office and assigns) on the other part.

WHEREAS be an agreement _____ dated

(hereinafter called the said Agreement) the Contractor has agreed. AND WHEREAS the contractor has applied to the Corporation that he may allowed advance on the security of materials absolutely belonging to him and brought by him to the site of the works subject to the said agreement for use in the construction of such of the works as he has undertaken to execute at rates fixed for the finished work *(inclusive of the cost of materials, and labour and other charges)* AND WHEREAS the Department has agreed to advance to the Contractor the sum of Rupees

on the security of materials, the quantities and other particulars of which are detailed in Part-II of a running account Bill(B) for the said work signed by the contractor on and the Client has reserved to himself the option of making any further advance or advances on the security of other materials brought by the contractor to site of said work.

NOW THIS INDENTURE WITNESSETH that in pursuance of said Agreement and in consideration of the sum of Rupees

on or before the execution of these present Agreement paid to the contractor by the Department *(the receipt where of the contractor hereby acknowledge)* and of such further advance *(if any)* as may be made to him as aforesaid the Contractor hereby agrees with the Department and declares as follows: -

1. That the sum of Rupees _____ as advance by Department to the Contractor as aforesaid and all or any further sum of sums advanced as aforesaid shall be employed by the contractor in or towards expending the execution of the said works and for no other purpose whatsoever.
2. That the materials detailed in the said Running Account Bill (B) which have been offered to and accepted by the Department as security are absolutely the Contractor's own property and free from encumbrances of any kind and the Contractor will not make any application for or received a further advance on the security or

materials which are not absolutely his own property and free from encumbrances of any kind and the Contractor indemnifies the Department against any claims to any materials in respect of which an advance has been made to him as aforesaid.

3. That the materials detailed in the said Running Account Bill (B) and all other materials on the security of which any further advance may be used by the Contractor solely on the execution of the said works in accordance with the directions of the project in charges of Department and in terms of the said agreement.
4. That the Contractor shall make at his own cost all necessary and adequate arrangements for the proper safe custody and protecting against all risks of the said materials and the until used in construction as aforesaid the said materials shall remain at the site if the works in the Contractor's custody and his own responsibility and shall at all times be open to inspection by the project –in-charge or any thereof being stolen, destroyed or damaged or becoming deteriorated in greater degree than is due to reasonable use and wear thereof, the Contractor will replace the same with other materials of like quality or repair and make good the same as required by the Engineer-in-charge.
5. That the said materials shall not on any account be removed from the site of the work except with the written permission of the Engineer-in-charge or an Officer authorized by him on that behalf.
6. That the advance shall be repayable in full when or before Contractor receives payment from the Department of the price payable to him for the said works under the terms and provisions of the said agreement, provided that if any intermediate payments are made to the Contractor on account of work done then on the occasion of each payment the Department will be at liberty to make a recovery from the Contractor's bill for such payment by deducting there from the value of the said materials that have been actually used in the construction and in respect of which recovery has not been made previously, the value for this purpose being determined in respect of each description of materials at the rates at which the amounts of the advance made under these presents were calculated.
7. That if the Contractor shall at any time make any default in the performance of observance in any respect of any of the terms and provisions of the said agreement or these provisions the total amount or the advance or advances that may still be owing to the Department shall immediately on the happening of such default be repayable by the Contractor to the Department together with interest thereon at 12 percent per annum from the date of payment

and with all costs charges damages and expenses incurred by the Department in or for the recovery hereof or the enforcement of this security or otherwise by reasons of the default of the Contractor and the Contractor hereby covenants and agree with the Client to repay and pay the same in all respects to him accordingly.

8. That the Contractor hereby accepts charges for all the said materials with the repayment to the Client of the said sum of Rs. and further sum or sums advances and all costs, charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that not with-standing anything prejudice to the powers contained therein and whatever the convenient for payment and repayment hereinbefore contained shall become enforceable and the money owing shall not be paid in accordance therewith the Client may at any time thereafter adopt all or any of the following course as he may deem best.
 - a) Seizes and utilizes the said materials or any part thereof in the completion of the said works on behalf of the Contractor in accordance with the provisions in this behalf contained in the said agreement defaulting the Contractor with actual cost effecting such completion and the amount due in respect of advance under these presents and crediting the Contractor with the value done as if he had carried it out in accordance with said agreement and the rates thereby provided if the balance is against the Contractor he is to pay the same to the Department on demand.
 - b) Remove and sell by public auction the seized materials or any part thereof an out of the money arising thereof and sales retain all the same aforesaid repayable or payable to the client under these presents and pay over the surplus (if any) to the Contractor.
 - c) Deduct all or any part of the money owing out of the security deposit of any sum due to the Contractor under the said agreement.
9. Except in the event of such default on the part of the Contractor as aforesaid interest of the advance shall not be payable.
10. That in the event of any conflict between the provisions of the present and the said agreements the provisions of the presents shall prevail and in the event of any dispute of difference arising over the construction or effect of these presents the settlement of which has not been hereinbefore expressly provided for the same shall be referred to the Engineer-in-Charge, whose decision shall be final and the provisions of the Indian Arbitration Act for the time being in force shall not apply to any such reference.

IN WITNESS whereof the said

and by the order under the Directions of the Department have hereunto set their respective hands the day and year first above written.

Signed sealed and delivered by

the said Contractor

In the presence of: -

Signature

Witness

Name

Address

Signed by

by the order and direction of Clients

in the presence of

Signature

Witness

Name

Address

Sample Format Of Application For Extension Of Time

PART – 1

1. Name of Contractor
2. Name of the work as given in the agreement
3. Agreement No.
4. Estimated amount put to tender
5. Date of commenced of work as per Agreement
6. Period allowed for completion of work as per Agreement
7. Date of completion stipulated in agreement
8. Period for which extension of time has been given previously granted
 - a) 1st extension vide EE;s No._____ dated _____for _____days
 - b) 2nd extension vide EE's No._____ dated _____ for _____days
 - c) 3rd extension vide EE No._____ dated _____ for _____days
 - d) 4th extension previously EE No._____ dated _____ for _____days
 - e) Total extension previously given _____days.
9. Reasons for which extension have been previously
(copies of the previous application should be attached)
10. Hindrance on account of which extension is applied for, with dates on which hindrances occurred and the period for which these are likely to last.
 - a) Serial No.
 - b) Name of hindrance
 - c) Date of Occurrence
 - d) Period for which it is likely to last

- e) Period for which extension required for this particular hindrance
- f) Over lapping period, if any, with reference to item (d)
- g) Net extension applied for
- h) Remarks, if any
- i) Total period for which extension is now applied for on account of hindrances mentioned above month/days)

11. Extension of time required for extra work

12. Detail of extra work an amount involved

a) Total value of extra work

b) Proportionate period of extension of time based estimated amount put to tender on account of extra work.

Total extension of time required for 10 & 12

Submitted to the Engineer – in- charge _____

Signature of Contractor _____

Dated _____

APPLICATION FOR EXTENSION OF TIME

PART -II

(To be filled in by the Engineer-in-charge)

1. Date of receipt of application form the Contractor
in the Engineer-in-charge
2. Acknowledgement issued by the Engineer-in-charge. vide his
No._____ Dated_____
regarding hindrances mentioned by the Contractor.
3. Remarks of the EE , UD&PA on the reasons given by the contractor are
correct and what extension, if any is recommended by him. If he does
not recommend the extension, reasons for rejections should be given.

Signature of EE,UD&PA _____

Dated _____

(To be filled in by the Executive Engineer)

1. Date of receipt in the Executive Engineer.
2. Executive Engineer's remarks regarding hindrances mentioned by the
contractor.
 - i) Serial No.
 - ii) Nature of hindrances
 - iii) Date of Occurrence
 - iv) Period for which hindrance is likely to last
 - v) Extension of time applied for by the contractor
 - vi) Overlapping period, if any, giving reference to items which
overlap
 - vii) Net period for which extension is recommended
 - viii) Remarks as to why the hindrance occurred and justification for
recommendation.
 - ix)
3. Executive Engineer's recommendations
*(The present progress of the work should be stated and whether the
work is likely to be completed by the date up to which extension has
been applied for____. If extension time is not recommended, what
compensation is proposed to be levied under clause 2 of the
agreement)*

Signature _____ of
Executive Engineer

Dated _____

The Director, UD&PA's recommendations

Signature _____ of _____ the
Director

PROFORMA FOR EXTENSION OF TIME

PART –III

To

Name

Address of the Contractor

Subject: -

Dear Sir(s)

Reference your letter No. _____
dated _____ in connection with the application for extension of
time for completion of the work _____

The date of completion for the above mentioned work as
stipulated in the Agreement is _____

Extension of time for completion of the above mentioned work is
granted upto _____ without prejudice to the right of the Client to recover
compensation for delay in accordance with the provisions of the Agreement
dated the _____

Provided that notwithstanding the extension hereby granted,
time is and shall still continue to be the essence of the said Agreement.

Yours faithfully

*Executive Engineer, UD&PA
Aizawl: Mizoram
for and on behalf of the
Governor of Mizoram.*

ANNEXURE - I

LIST OF MATERIALS OF APPROVED MAKE

The materials of first/standard quality from the following approved 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.

A. General Materials

S. No.	Description	Brand Name/Manufacture
1.	Portland cement	A.C.C., Dalmia, Valley Strong, Star Cement etc. as approved by the Executive Engineer from time to time.
2.	Steel Reinforcement (TMT Bars)	SAIL, TISCO, TATA, Jindal etc as approved by the Executive Engineer from time to time.
3.	CGI Sheet	Tata, Shakti, Jindal etc.
4.	Synthetic Enamel Paint	Berger, Shalimar, Asian Paints
5.	Oil Bound Distemper	Jenson & Nicolson.
6.	Water Proofing Cement	
7.	Mortice Latch	Godrej, Harrison or equivalent
8.	White Cement	Birla white, JK white or equivalent
9.	Ceramic Tiles	Regency, Spartek, Somani, Kajaria, Orient, Johnson, Bell.
10.	Primers/Paints (i/c Water Proofing cement paint) etc.	Nerolac, Asian, Berger Johnson and Nicholson, Killick Nixon/ Snowcem, Durocem.
11.	Lime	Satna, Dehradun
12.	Putty	Shalimar or equivalent
13.	Aluminum sections (Anodizing by approved Anodiser)	Hindalco, Jindal, Indian Aluminium co.
14.	Water proofing compound	CICO, FOSROC, PIDILITE
15.	Eriction Hinges (Stainless steel)	Earl Bihari or equivalent.

B. Sanitary fixtures and Faucets

1.	Viterous China Sanitary Ware	a) Parryware b) Hindustan sanitary ware c) Neycer
2.	CP Brass Fauchets, Wastes, Trapes etc.	a) Jaquar

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|----|---|---|
| | | b) Aquaplust
c) GEM |
| 3. | C.P. Flush valves for WC's | a) GEM
b) Jaquar
c) Orient |
| 4. | CP Angle Valves (ball Valve Type) | a) ITAP, Italy
b) Bugatti, Italy |
| 5. | CP bathroom Accessories | a) GEM
b) Jaquar
c) ESS ESS |
| 6. | CP Wastes, Spreaders, Urinal Flush pipe | a) Lotus
b) Orient
c) ESS ESS |
| 7. | Infrared Sensor operated Fauchets | a) Utech
b) AOS-Robo
c) Lopal
d) Encon |
| 8. | Stainless Steel Sink | a) Kingston-cobra
b) jayna
c) Neelkant |
| 9. | Bevelled edge mirror | Atul, Jolly or Modiguard |

C. Pipes and Fittings

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| 1. | Centrifugally cast (Spun) Iron Soil, Waste & Vent Pipes and fittings | a) Jayaswal Neco (Nagpur)
b) C.I.A.L. (Durgapur) |
| 2. | UPVC Soil, Waste and Vent Pipes and Fittings | a) Supreme
b) Prince
c) Finolex |
| 3. | G.I. Pipes | a) Tata
b) Jindal, Hissar |
| 4. | GI Fittings | a) "R" Brand
b) Unik Brand
c) Zoloto-m |
| 5. | CL Class LA Pipes | a) Electro Steel
b) Kesoram
c) ISI marked of approved quality |
| 6. | Stoneware pipes | a) Bhaskar |

7. RCC Pipes
- b) Anand
 - a) ISI marked of approved quality.

D. Insulation

1. Synthetic Polymeric Rubber Compound
- a) Vidoflex
 - b) Superlon
 - c) Armstrong

E. Valves

1. Valves, Float Valves
2. Ball Valves
- a) Zoloto
 - a) RB, Italy
 - b) ITAP, Italy
 - c) CIM, Italy

F. Manhole Covers, Gratings etc.

1. Steel Fibre Reinforced Concrete Manhole Covers and grating
2. C.I. manhole Covers
- a) K.K. manholes
 - b) Pragati Concrete
 - a) RIF
 - b) Kajeco
 - c) Neco

Note:

The contractor shall provide the materials as per the make or Brand indicated above. When two or more alternative brands have been mentioned, the brand to be finally used shall be as decided by the Engineer-in-Charge. The contractor shall obtain the approval of EE, UD&PA Dept. for the alternative brands, before the actual execution of items.

G: - All other items shall be of ISI marked/as per approved sample kept at site of work.

H. Additional specification & condition for Electrical Conduit works.

- H.1 The contractor is to engage another agency who should have valid registration of CPWD under category Class IV or above (Electrical) and valid electrical contractor license. Valid registration with PWD can be replaced in writing by the Engineer-in-Charge based on credentials/experience of the proposed electrical sub-contractor.
- H.2 In respect of electrical works is the main contractor/electrical contractor shall take instructions from the EE UD&PA i/c the work or his authorized representative so designated by the Engineer-in-Charge.
- H.3 The Bills of electrical components shall be submitted by the Engineer-in-Charge.

- H.4 Deductions like Local Sale Tax/State VAT/Security Deposit/Income Tax/GST/labour cess etc shall be deducted from the main contractor only.
- H.5 The work shall be carried out as per CPWD Specification (Part-I: Internal 1994: Part-II: External, 1995) amended up to date and IE Rule 1956 amended up to date.
- H.6 All materials have to be got approved from Engineer-in-Charge or his authorized representative before use at site.
- H.7 Materials used shall conform to relevant IS Specification wherever applicable.
- H.8 Before casting of slabs, the free end of the conduits should be plugged and suitable fish wire is to be provided for ease of drawing of wire for which no extra payment shall be made by the department.
- H.9 All metal boxes shall be painted with anti corrosive primer before erection.
- H.10 To avoid too many circular boxes for closely placed conduits, suitable size rectangular MS/CI box shall be provided as junction box while laying of conduit.
- H.11 Final bill of the main Contractor shall be released subject to the "no dues certificate" issued by the electrical Sub-contractor.

SECTION 8. BILL OF QUANTITIES

NAME OF WORK: Waterbody Rejuvenation of Huliana Tuikhur at Saitual Venglai

SI No.	Particulars	Qty	Unit	Quoted Rate (Rs)		Amount (In figure)
				In figure	In words	
1	Demolishing brick tile covering in terracing including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	322.00	sqm			
2	Earthwork in excavation in foundation trenches or drains etc. (not exceeding 1.5m in width or 10sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5m including getting out excavated soil and disposal of surplus excavated soil as directed within a lead of 50 metres b)Hard Soil (<i>pick work</i>)	55.25	cum			

SI No.	Particulars	Qty	Unit	Quoted Rate (Rs)		Amount (In figure)
				In figure	In words	
3	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 50m and lift upto 1.5m	20.25	cum			
4	Providing and laying in position cement concrete of specified grade excluding cost of centering and shuttering - All work upto plinth level:a) 1:2:4 (1 cement :2 course sand :4 stone aggregate 20mm nominal size)	28.35	cum			
5	Providing and laying in position machine batched, machine mixed design mix M-20 grade cement concrete for reinforced cement concrete work,using cement content as per approved design mix,including pumping of concrete to site of laying but excluding the cost of centering,shuttering,finishing	0.56	cum			

SI No.	Particulars	Qty	Unit	Quoted Rate (Rs)		Amount (In figure)
				In figure	In words	
	and reinforced, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge."(Note:- Cement content considered in this item is 330kg/cum."Excess/less cement used as per design mix is payable/recoverable separately					
	a) All work upto plinth.					
	b) All work above plinth level upto Ground floor	4.629	cum			
6	Steel Reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete	1107.41	kg			

SI No.	Particulars	Qty	Unit	Quoted Rate (Rs)		Amount (In figure)
				In figure	In words	
	b) Thermo Mechanically treated bars					
7	Centering and shuttering including strutting, propping, etc. and removal of form for all heights for - a) Foundations, footings, bases of columns, etc for mass concrete	10.80	sqm			
	c) Columns, pillars, piers, abutments, posts and struts	32.40	sqm			
8	Half brick masonry with first class brick in super structure above plinth level upto floor V level b) In cement mortar 1:4 (1 cement : 4 coarse sand)	24.84	sqm			

SI No.	Particulars	Qty	Unit	Quoted Rate (Rs)		Amount (In figure)
				In figure	In words	
9	20mm cement plaster 1:3 (1 cement : 3fine sand)	49.68	sqm			
10	Applying priming coat with ready mixed primer of approved brand and manufacture on wood work and plywood complete. a) Ready mix with white primer	24.84	sqm			
11	Painting with synthetic enamel paint of approved brand and manufacture in all shades on new work (two or more coats). (a) General Quality	24.84	sqm			
				Grand Total		