



NOTICE INVITING TENDER

Name of work: Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.

NIT NO. 26/EE(Civil)Puducherry-I/CPWD/2026-27

Estimated Cost: Rs. 97,87,228/-

EMD: Rs. 1,95,745/-

Time for Completion: One (01) Month

Last date of bid Submission: 14-08-2026

NIT invited by Executive Engineer (Puducherry), Central Public Works Department,
Puducherry, India

1. INDEX

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Certified that the NIT contains 1 to 143 pages

NIT approved for Rs. 97,87,228/-

(Rupees Ninety-Seven Lakhs Eighty-Seven Thousand Two Hundred and Twenty-Eight Only)

**Executive Engineer (Civil) Puducherry-I,
CPWD, Puducherry.**

2. NOTICE INVITING e- BIDS

The Executive Engineer(C) Puducherry-I, CPWD, Puducherry(Phone No:0413-2272059, Email ID: pyddopcd.cpwd@gov.in) invites on behalf of President of India, online Percentage Rate bids from the **approved and eligible Buildings & Road category Contractors of the Central PWD** for following work:-

NIT No.	26/EE(Civil)Puducherry-I/CPWD/2026-27
Name of work:	Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.
Estimated Cost :	Rs. 97,87,228/-
Earnest Money :	Rs. 1,95,745/-
Period of Completion	One (01) Month.
Last time and date of submission of Bid	up to 03.00 PM on 14-08-2026

The Bid forms and other details can be obtained from the Web Site <https://etender.cpwd.gov.in>.

**Executive Engineer (Civil) Puducherry-I
CPWD, Puducherry.**

3. INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING

FORMING PART OF BID DOCUMENT

The Executive Engineer (Puducherry), CPWD Puducherry on behalf of President of India invites online percentage rate bids from **approved and eligible Buildings & Road category contractors of CPWD** for the following works.

S. No.	NIT No.	Name of Work and Location	Estimated cost put to bid (Rs)	Earnest Money Rs	Stipulated Period of Completion (in months)	Last date of online submission of bid, copy of receipt of deposition of original EMD and other documents as specified in the bid document	Period during which Original EMD shall be submitted for receipt	Date and time of opening of bid
1	2	3	4	5	6	7		8
1	26/EE(Civil)Puducherry-I/CPWD/2026-27	Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.	Rs. 97,87,228/-	Rs. 1,95,745/-	One (01) Month	Up to 03.00 PM on 14-08-2026	Up to 02.30PM on 14-08-2026	14-08-2026 after 03.30 PM

4. INSTRUCTION TO CONTRACTOR

1. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he consider himself eligible and he is in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. **The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website <https://etender.cpwd.gov.in> or www.cpwd.gov.in free of cost.**
4. But the bid can only be submitted after deposition of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission and uploading the mandatory scanned documents such as **Insurance Surety Bonds, Account Payee Demand draft or Bankers Cheque or Fixed Deposit Receipts or/and Bank Guarantee(for balance amount as prescribed) from any of the Commercial Bank** towards EMD in favour of Executive Engineer as mentioned in NIT, receipt for deposition of original EMD to division office of any Executive Engineer (including NIT issuing EE/ AE), CPWD and other documents as specified.
5. **Those contractors who are not registered or have not updated their profile on the website mentioned above, are required to get registered / update their profile beforehand. The necessary training materials including the videos with step to step process are available on download section of <https://etender.cpwd.gov.in>.**
6. **The intending bidder must have valid class-III digital signature certificate with encryption key (combo type) to perform any operations / transactions on the e-tendering portal / website and the bidder should download and install the eMsigner on their system as per instructions available on download section of <https://etender.cpwd.gov.in>.**
7. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of JPG format and PDF format.
9. Contractor must ensure to quote rate in the prescribed column(s) meant for quoting rate in figures appears in **yellow** colour and the moment rate is entered, it turns sky blue. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO). However, If a bidder quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest bidder.

10.The existing enlisted contractor either himself or his authorized representative shall take compulsory ERP (Enterprise Resource Planning) training through any of the CPWD Regional Training Institutes (RTIs) at Delhi, Mumbai, Chennai and Kolkata, National CPWD Academy (NCA) Ghaziabad, Training arranged by Graduates of ERP “Train the Trainers Programme” conducted by NCA, Ghaziabad or through any other special training arranged by ERP unit of CPWD before last date of submission of Bids. Training will be valid only when participants are registered in LMS (Learning Management System) of ERP and certificate is issued through LMS of ERP.

From 01.07.2024, the enlisted contractor will not be allowed to participate in the tendering process without uploading the certificate of above training. The bid uploaded without attaching the certificate of ERP Training will not be considered for opening of Technical Bid and such bids will be REJECTED.

**5. LIST OF DOCUMENTS TO BE SCANNED AND UPLOADED WITHIN THE PERIOD
OF BID SUBMISSION:**

MANDATORY DOCUMENTS

- 1) Insurance Surety Bonds, Account payee Demand Draft, Account Payee Banker's Cheque/Fixed Deposit Receipt/ Bank Guarantee of any Commercial Bank against EMD.
- 2) **Enlistment order of the contractor in appropriate category/class.**
- 3) **GST registration Certificate, if already obtained by the bidder.**

If the bidder has not obtained GST registration as applicable, then he shall scan and upload the following undertaking along with bid documents.

"If work is awarded to me, I/we shall obtain GST registration certificate as applicable within one month from the date of receipt of award letter or before release of any payment by CPWD whichever is earlier, failing which I/we shall be responsible for any delay in payments which will be due towards me/us on account of the work executed and/or for any action taken by CPWD or GST department in this regards".

- 4) **Form "F"** - Copy of receipt for deposition of original **EMD** issued from Division Office of any Executive Engineer CPWD.
- 5) **Form "G"** Valid Notarized Affidavit of '**Non-black listing by CPWD/State/Central Departments/PSU/Autonomous bodies**' on non-judicial stamp paper worth Rs.100/- duly signed by the authorized person of agency / firm.
- 6) **Form "I"** Declaration about site inspection as per **prescribed format of NIT.**
- 7) Certificate of ERP training as per CPWD O.M.DG/Enlist.Rules-2023/Misc./25 dated:15.03.2024.

Note: All the above documents must be clearly displayed and seen by the tender opening authority before opening the actual bid.

Document to be submitted after acceptance:

- I. Licenses / Registrations or proof of applying for Labour licenses, registration with EPFO, ESIC & BOCW welfare Board.
- II. Willingness certificate from concerned competent electrical contractor if required.

GENERAL INFORMATION

1. It shall be the responsibility of the successful bidder to maintain the security / watch and ward of the buildings to be dismantled if any, after taking over of the buildings and the Engineer- in-Charge is not responsible for any loss of materials from the site.
2. The successful bidder shall be responsible for any damage done in the demolition and indemnify the Government against any claim on account thereof including third party and workmen's Compensation claims. If any damage is done to any adjoining property, the Engineer-in-Charge shall be entitled to have the same put right at the risk and expense of the successful bidder or treat the default as a ground for terminating the contract.
3. The successful bidder shall acquire no interest in the land comprised in the said property except a permission to enter thereon for the purpose of the demolition only aforesaid & for construction of structure as per terms and conditions of this tender document and in particular shall not be entitled to reside or allow anyone to reside or remain on the property except watchman during the contract period/ extended contract period.
4. The work shall be executed without creating disturbance to the movement of the people on the adjoining roads. Care shall be taken to prevent dust spreading beyond the building to be demolished. The work shall be executed without making heavy sounds.
5. The work shall be executed in compliance with the complete labour act in force, regarding payment of minimum wages, advances, overtime, gratuity, provident fund, providing medical and other facilities and the safety measures to be taken as applicable as per the labour act.
6. The ground where the buildings are located shall be levelled without undulations and dressed neatly after completion of the work.
7. The contractor should appoint a full-time qualified person as safety-in-charge for taking care of implementation of safety system in order to safeguard the workers engaged for the demolition of the building. Any casualty during demolition shall be the responsibility of the bidder.
8. The contractor shall ensure the safety of the public / animals etc during the execution of the work. Necessary precautionary measures shall be taken.
9. The Cost of bid amount shall be net inclusive of cost of dismantling, disposal of all surplus materials and the cost of salvageable materials including the electrical installations and fittings etc.,
10. No explosives shall be used for dismantling of the buildings.
11. Labours shall not be permitted (Except staff of watch and ward) to stay inside

- the campus. The Contractor shall make necessary accommodation outside the campus for their labours. The labour movement should be restricted to the areas only where the work is to be carried out.
12. The demolishing of 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 jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra will be paid on this account.
 13. The Contractor shall carry out the work without disturbing / damaging the other existing structures and trees / plants etc which are not in the purview of the contract. Any damage/disturbance made by the contractor to the adjacent / nearby buildings / structures will be rectified at the risk and cost of the contractor.
 14. The Contractor shall take instructions from the Engineer-in-Charge for stacking of materials. No excavated earth / building rubbish shall be stacked on areas where other buildings, roads, services, compound walls are existing.
 15. The debris / building rubbish waste and the like as generated from the work spot should be taken out of respective site at JIPMER Campus, Puducherry. All the waste and debris material should be disposed off the campus in a legal and environmentally friendly way as per contract.
 16. The Contractor shall take all precautionary measures to safeguard against any accident for the contractors' employees, general public, supervisory staff of CPWD by providing necessary safety equipment e.g. MS sheet barricading for a minimum height of 10meter etc and Personal Protection Equipment e.g. helmets, safety shoes etc. at work site.
 17. The Contractor shall abide by the restrictions, rules, regulations and timings imposed by the department on the working and on movement of labour, materials etc.
 18. No temporary electrical connection shall be provided by the Engineer-in-charge/CPWD. The contractor shall make his own arrangement of temporary electrical connection from the Puducherry EB, fuel/generator for running of tools, plants and machinery required for demolition work. However, the department shall assist the agency in forwarding the application.
 19. The Contractor shall make necessary arrangement to obtain photo id pass / group pass for entry of labours, materials, machinery and vehicle in to the respective site at JIPMER Campus, Puducherry if necessary.
 20. No one is allowed to enter into workspace and work site without adequate foot protection.
 21. All the dangerous moving parts of the portable / fixed machineries being used shall be adequately guarded.
 22. Inserting of bare wires for tapping the power from electrical sockets is completely prohibited.

23. All unsafe conditions, unsafe acts identified by contractor, reported by site supervisors and / or safety personnel will have to be corrected immediately.
24. No children shall be allowed to enter the work pace.
25. Restrictions may be imposed by the security staff of client department etc., on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account.
26. The department shall not be liable for any payment in respect of any damages or compensation payable accordingly to law in respect or in consequences of any accident or injury or loss of life to any workman or other person in the employment of the contractor or any sub-contractor. The contractor shall insure against such liability with an insurer approved by the employer for sum as per established norms during the entire period till the completion of the contract.
27. Unless otherwise specified in the schedule of quantities the rate tendered by the contractor for the items of the work shall be considered, as inclusive of pumping out or bailing out water, if required, for which no extra payments will be made. This will include water encountered from any source, such as rains, floods, sub-soil water table being high or due to any other cause whatsoever
28. **GST@ 18% and Labour Cess @ 1%etc., or any other tax applicable in respect of this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same. However 2% (TWO PERCENT) of the gross bill amount will be deducted at source, towards GST, from each running account and Final bill paid to the contractor by the Executive Engineer (Puducherry) or his successors thereof as per the Section 51 of the GST Act 2017 and amended up to date of receipt of tender.**
29. **Statutory fees / connection charges pertaining to this work, if any paid to the local bodies or any other agency by the contractor shall be reimbursed by the Department on submission of vouchers/ bills / receipts issued by the various local bodies. The cost of restoration of any services damaged by the agency during execution shall however be borne by him.**
30. **Maintenance / defect liability period** would be uniformly **One (1) year** from the date of completion of work in all respects & fit for occupation. However, maintenance of other activities such as cleaning, sweeping & de-silting of sewer lines, S.W. Drain shall be done once again, if required, at the time prior to handing over of completed work to the client department. The maintenance will be only limited to removal of defects noticed in the works carried out by the agency during defect liability period. The terms of Maintenance & liability period for Electrical subheads is as mentioned in the part - C for E & M works.

GENERAL CONDITIONS

- 1.1 The Contractors are advised to inspect and examine the site and its surroundings and satisfy themselves with the nature of site, the means of access to the site, the constraints of space for stacking material / machinery, labour etc., constraints put by local regulations, if any, weather conditions at site, general ground / subsoil conditions etc. or any other circumstances which may affect or influence submission of their bids. The site is available for work.. The contractor shall carry out survey of the work area, at his own cost, setting out the layout and fixing of alignment of the building as per architectural and structural drawings (to be prepared by the contractor) in consultation with the Engineer-in-charge and proceed further ensuring full structural continuity and integrated construction. Any discrepancy between the architectural drawings and actual layout at site shall be immediately brought to the notice of the Engineer-in-charge.
- 1.2 The Contractor shall, if required by him, before submission of the tender, inspect the drawings in the Office of the **Executive Engineer (Puducherry), CPWD, Puducherry** The department shall not bear any responsibility for the lack of knowledge and also the consequences, thereof to the Contractor. The information and data shown in the drawings and mentioned in the bid documents have been furnished, in good faith, for general information and guidance only. The Engineer- in-Charge, in no case, shall be held responsible for the accuracy thereof and/or interpretations or conclusions drawn there from by the Contractor and all consequences shall be borne by the Contractor. No claim, whatsoever, shall be entertained from the Contractor, if the data or information furnished in bid document is different or in-correct otherwise or actual working drawings are at variance with the drawings available for inspection or attached to the bid document. It is presumed that the Contractor shall satisfy himself for all possible contingencies, incidental charges, wastages, bottlenecks etc. likely during execution of work and acts of coordination, which may be required between different agencies. Nothing extra shall be payable on this account.
- 1.3 The work shall be carried out, all in accordance with true intent and meaning of the specifications, the drawings and other terms & conditions in the bid documents all taken together, regardless of whether the same may or may not be particularly shown on the drawings and/or described in the specifications, provided that the same can be reasonably inferred there from may be several incidental works, which are not mentioned in the bid document but will be necessary to complete the work in all respects. All these incidental works / costs which are not mentioned in bid document but are necessary to complete the work in all respects shall be deemed to have been included in the rate quoted by the contractor. No adjustment of rates shall be made for any variation in quantum of incidental works due to variation / change in actual working drawings. Also, no adjustment of rates shall be made due to any change in incidental works or any other deviation in such element of work (which is incidental to the work and are necessary to complete the work in all respects) on account of the

directions of Engineer-in-charge. Nothing extra shall be payable on this account.

- 1.4 The contractor(s) shall give to the local body, police and other authorities all necessary notices etc. that may be required by law and obtain all requisite licenses for temporary obstructions, enclosures etc. and pay all fees, taxes and charges which may be leviable on account of these operations in executing the contract. He shall make good any damage to the adjoining property whether public or private and shall supply and maintain lights either for illumination or for cautioning the public at night.
- 1.5 Proper temporary barricading by fencing with G.I. sheets, shall be carried out by the contractor at the start of work as per direction of Engineer-in-charge in order to physically define the boundaries of the plot for restricted entry to only those involved in the work and also to prevent any accidents, at the same time without causing any inconvenience to the traffic and the users of the handed over buildings in the adjacent plots. It shall be done by providing, erecting, maintaining temporary protective barricading of minimum 10.00 (Ten) meters total height, made in panels, with each panel having MS frames / MS scaffolding pipes of suitable size and stiffness, with 24 gauge thick GI corrugated sheet or suitably stiffened plain GI sheet fixed on frames. Such panels shall be suitably connected to each other for stability with nuts and bolts , hooks, clamps etc. and fixed firmly to the ground at about 2 metres spacing, for the entire duration till completion of the work. He shall also provide and erect temporary protective barricades within the plot, if required, to prevent any accident. Temporary protective roofing near the entrance to the building, under construction, shall be made to protect the visiting officials from getting hurt by falling debris etc. Also, one or more coat of enamel paint of shade as approved and directed by the Engineer-in- charge shall be applied on the panels and "CPWD" shall be painted over that in suitable sizes, shapes and numbers as directed by the Engineer-in-charge. It shall be dismantled and taken away by the Contractor after the completion of work at his own cost with the approval of the Engineer-in- charge. Nothing extra shall be payable on this account.
- 1.6 The Contractor/ Architects to make the built environment Barrier free and accessible to all. Bidders are instructed to strictly adhere to the provisions contained in relevant guidelines on barrier free and accessibility and corresponding provisions of NBC while incorporating such features in the building. Bidders should visit CPWD website www.cpwd.gov.in. (Provision of lift for vertical movement shall be as per drawings).
- 1.7 The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night. In case of any accident to labours/ contractual staff the entire responsibility will rest on the part of the contractor and any compensation under such circumstances, if becomes payable, shall be entirely borne by the contractor.

- 1.8 The work shall generally be carried out in accordance with the applicable

“CPWD Specifications” with correction slips issued up to previous day of the last date of submission of bids, Additional/ Particular Specifications, Architectural/ Structural drawings and as per instructions of Engineer-in-charge. Any additional item of the work, if taken up subsequently, shall also conform to the relevant CPWD specifications as mentioned above.

- 1.9** The several documents forming the tender are to be taken as mutually complementary to one another. Detailed drawings shall be followed in preference to small scale drawings and figured dimensions in preference to scale dimensions.
- 1.10** In case of any difference or discrepancy between the description of items, particular specifications for individual items of work (including special conditions) and I.S. Codes etc., the following order of preference shall be observed.
 - (i) Description of the Schedule of Quantities
 - (ii) Particular specifications
 - (iii) Special conditions
 - (iv) Additional Conditions
 - (v) CPWD Specifications including correction slips issued up to the last date of uploading/submission of tender.
 - (vi) General Conditions of Contract 2023 for Construction works including correction slips issued up to the last date of uploading/submission of tender.
 - (vii) Indian Standards Specifications of B.I.S.
 - (viii) ASTM, BS, or other foreign origin codes mentioned in tender document.
 - (ix) Manufacturers’ specifications and as decided by the Engineer-in-Charge.
 - (x) Sound Engineering Practices
- 1.11** The works to be governed by this contract shall cover delivery and transportation up to destination, safe custody at site, insurance, erection, testing and commissioning of the entire work.
- 1.12** It shall be the responsibility of the successful bidder to maintain the security / watch and ward of the buildings or part of buildings, to be dismantled if any, after taking over of the buildings and the Engineer- in-Charge is not responsible for any loss of materials from the site.
- 1.13** The successful bidder shall be responsible for any damage done in the demolition and indemnify the Government against any claim on account thereof including third party and workmen’s Compensation claims. If any damage is done to any adjoining property, the Engineer-in-Charge shall be entitled to have the same put right at the risk and expense of the successful bidder or treat the default as a ground for terminating the contract.
- 1.14** The works to be undertaken by the contractor shall inter-alia include the following:
 - (i) Preparation of detailed Structural drawing, SHOP drawings and ‘AS BUILT’ drawings

- (ii) Obtaining Statutory permissions wherever applicable and required.
- (iii) Pre-commissioning tests as per relevant standard specifications, code of practice, Acts and Rules wherever required.
- (iv) The contractor shall provide all the shop drawings or layout drawings for all the co-ordinate services before starting any work or placing any order of any of the services etc. These shop drawings/layout drawings shall be got approved from Engineer-in-charge before implementation and this shall be binding on the contractor. The contractor shall submit material submittals along with material sample for approval of Engineer-in-Charge prior to delivery of material at site.

- 1.15 The work shall be carried out in accordance with scope of work.** Before commencement of any item of work the contractor shall correlate all the relevant architectural and structural drawings, Specifications etc. issued for the work and satisfy himself that the information available from there is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-charge before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information and no claim whatsoever shall be entertained by the department on this account. The delay caused on account of non-timely action by the contractor in resolution of the differences whatsoever shall not be considered as valid ground for extension of time unless otherwise accepted by Engineer- in-charge.
- 1.16 Unless otherwise provided in the Schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building, including all curvature in all planes as well as in elevations** and nothing extra shall be payable to him on this account.
- 1.17** The contractor shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at suitable place. No stacking of materials or excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. The stacking shall take place as per stacking plan. However, if any change is required, the same shall be done with the approval of Engineer- in-Charge.
- 1.18** The contractor shall bear all incidental charges for cartage, storage and safe custody of materials, if any, issued by department as well as to those materials also arranged by the contractor.
- 1.19** Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the execution of work and nothing extra shall be payable or extra cement considered in consumption on this account.
- 1.20** The scope of work includes doing hacking on the existing/ proposed RCC/

cement concrete surface wherever required as per the directions of Engineer in charge. The cost of hacking shall be deemed to be inclusive in the rates quoted by the agency/ contractor.

- 1.21 The contractor shall give performance test of the entire installation(s) as per the specifications in the presence of the Engineer-in-charge or his authorized representative before the work is finally accepted and nothing extra what-so-ever shall be payable to the contractor for such test.
- 1.22 Materials used on work without prior inspection and testing (where testing is necessary) and without approval of the Engineer-in-Charge are liable to be considered unauthorized, defective and not acceptable. The Engineer-in-Charge shall have full powers to require the removal of any or all of the materials brought to site by contractor which are not in accordance with the contract specifications or do not conform, in character or quality to the samples approved by the Engineer- in-Charge. In case of default on the part of the contractor in removing the rejected materials, the Engineer-in-Charge shall be at liberty to have them removed at the risk and cost of the contractor.
- 1.23 Use of Manufactured sand (M-sand), subject to fulfilment of CPWD Specifications is allowed in all items of works without any cost adjustment i.e without any extra payment to contractor or without any recovery from contractor.
- 1.24 Water tanks, taps, water supply & drainage pipes, fittings & accessories should conform to bye- laws of local body/corporation, where CPWD specifications are not available. The Contractor should engage approved, licensed plumbers for the work and get the materials (fixtures/fittings) tested, by the municipal Body/ Corporation authorities wherever required at his own cost. The Contractor shall submit for the approval of the Engineer-in-charge, the name of the plumbing agency (along with their working experience in recent past) proposed to be engaged by him.
- 1.25 The contractor shall make his own arrangements for water and for obtaining electric connections if required and make necessary payments directly to the State Govt. departments concerned. Contractor shall get the water tested from laboratory approved by the Engineer-in-charge at regular interval as per the CPWD Specifications. All expenses towards collection of samples, packing, transportation etc. shall be borne by the contractor.
- 1.26 Work shall normally be done in a single shift/day. However if the work is required to be executed in more than one shift in a day for meeting the time lines, the Contractor with prior approval of the Engineer-in-charge, shall have to make necessary arrangements for the same and all costs towards the same shall be deemed to have been included in the quoted rates.

1.27 PREVENTION OF NUISANCE AND POLUTION CONTROL

The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties

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

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

1.28 SECURITY AND TRAFFIC ARRANGEMENTS

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

- 1.29 **As the site is restricted, the huts for labour are not to be erected at the site of work by the contractors.** The contractor is required to make his own arrangements to provide huts for labourers at outside, as is acceptable to local bodies and nothing extra shall be paid on this account. He shall make his own arrangements for stores, field office etc. Before tendering, he shall visit the site and assess the manner in which he is able to arrange the above facilities. The Engineer-in- Charge shall in no way be responsible for any delay on this account and no claim, whatsoever, on this account shall be entertained.
- 1.30 No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and the work for which payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P/Machinery brought to the site by him.
- 1.31 The contractor shall construct suitable go downs, yard at the site of work for storing all other materials so as to be safe against damage by sun, rain, damages, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose at his cost.
- 1.32 All materials obtained from contractor shall be got checked by the representative of Engineer-in- Charge on receipt of the same at site before

use.

1.33 The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including all equipment, services provided by him against pilferage and breakage during the period of Installations and thereafter till the building is physically handed over in complete shape to the CPWD. **The CPWD will take over the building along with the Client Department after rectification all defects.** No extra payment shall be made on this account and no claim shall be admissible on this account.

1.34 The contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye- laws laid down by Collector and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The contractor shall also adhere to all traffic restrictions notified by the local authorities. The extra sewerage charges (one-time charges for commencement of work) required to be paid to the Municipal Corporation/ other statutory bodies shall be paid by the department and need not be considered by the contractor.

All statutory taxes, levies, charges (including water and sewerage charges, charges for temporary service connections and / or any other charges) payable to such authorities for carrying out the work, shall be borne by the Contractor. The water charges (for municipal water connection as well as tanker water) shall be borne by the contractor. Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent sewerage charges shall be borne by the contractor.

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

1.35 For works below ground level, the contractor shall keep that area free from water. If dewatering or bailing out of water is required, the contractor shall do the same at his own cost and nothing extra shall be paid except otherwise provided in the tender document.

1.36 The contractor shall make all necessary arrangements for protecting works already executed from rains, fog or likewise extreme weather conditions and for carrying out further work, during monsoon including providing and

fixing temporary shelters, protections etc. Nothing extra shall be payable on this account and also no claims for hindrance shall be entertained on this account.

1.37 In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, no claim financially or otherwise shall be entertained notwithstanding any other provisions elsewhere in the bid document. Also, the contractor shall make good, at his own cost, the damages caused, if any. Further, no claim for hindrance shall be entertained on this account.

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

1.39 SETTING OUT

- (i) The contractor shall carry out survey of the work area, at his own cost, setting out the layout of building in consultation with the Engineer-in-charge & proceed further. Any discrepancy between architectural drawings and actual layout at site shall be immediately brought to the notice of the Engineer-in-charge. It shall be responsibility of the contractor to ensure correct setting out of alignment. Total station survey instruments only shall be used for layout, fixing boundaries, and centre lines, etc., Nothing extra shall be payable on this account.
- (ii) The contractor shall establish, maintain and assume responsibility for grades, lines, levels and bench marks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions etc. to the Engineer-in-charge before commencing work. Commencement of work shall be regarded as the contractor's acceptance of such grades, lines, levels, and dimensions and no claim shall be entertained at a later date for any errors found.
- (iii) If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer-in-charge. Nothing extra shall be payable on this account.
- (iv) The contractor shall ascertain and confirm the site levels with respect to benchmark from the concerned authorities. The contractor shall protect and maintain temporary/ permanent bench marks at the site of work throughout the execution of work. These benchmarks shall be got checked by the Engineer-in-charge or his authorized representatives. The work at different stages shall be checked with reference to bench marks maintained for the said purpose. Nothing extra shall be payable on this account.
- (v) The approval by the Engineer-in-charge, of the setting out by the contractor, shall not relieve the Contractor of any of his

responsibilities and obligation to rectify the errors/ defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.

- (vi) The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignments, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the Contractor at his own cost to the entire satisfaction of the Engineer-in-charge.
- (vii) The rate quoted by the contractor is deemed to be inclusive of site clearance, setting out work (including marking of reference points, centre lines of buildings), construction and maintenance of reference bench mark(s), taking spot levels, construction of all safety and protection devices, barriers, barricading, signage, labour safety, labour welfare and labour training measures, preparatory works, working during monsoon, working at all depths, height and location etc, **any extra excavation of earth wherever required** and any other incidental works required to complete this work. Nothing extra shall be payable on this account.
- (viii) The rate offered is inclusive of providing sunken flooring in bathrooms, kitchen etc., wherever applicable and nothing extra on this account is admissible.

1.40 A site laboratory with the minimum equipment's as specified in CPWD specifications/in this bid document shall be established, made functional and maintained within one month from the award of work as per list without any extra cost to the department. In case of non-compliance / delay in compliance in this, **a recovery Rs. 1000/- per day will be imposed which will be recovered from the immediate next R/A Bill of the Contractor**

1.41 The contractor should make temporary arrangement for sewage disposal, water supply and electricity for completed building to make them to functional in case permanent arrangements are not ready.

1.42 INTEGRATED SERVICE DRAWINGS

Before taking up the work, the contractor shall also provide integrated drawings for various civil and electrical services showing details of lay out plan including sectional elevations. Contractor shall plan and mobilize his resources as per the integrated drawings and as per the site conditions to facilitate convenient execution, installation as well as maintenance of these services. Nothing extra shall be payable on this account.

1.43 TOOLS AND PLANTS

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

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

1.44 SCAFFOLDING

Wherever required for the execution of work, all the scaffolding shall be provided and suitably fixed, by the contractor. It shall be provided strictly with steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. Single scaffolding system is strictly prohibited and shall invite necessary action. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. Nothing extra shall be payable on this account. It shall be ensured that no damage is caused to any structure due to the scaffolding.

- 1.45 (i) The contractor shall do proper sequencing of the various activities by suitably staggering the activities so as to achieve early completion. The contractor is to deploy adequate equipment, machinery and labour as required for the completion of the entire work within the stipulated period as specified. Also ancillary facilities shall be provided by contractor commensurate with requirement to complete the entire work within the stipulated period. Nothing extra shall be payable on this account. Adequate number/sets of equipment in working condition, along with adequate stand-by arrangements, shall be deployed during entire construction period.

It shall be ensured by the contractor that all the equipment, Tools & Plants, machineries etc. provided by him are maintained in proper working condition at all times during the progress of the work and till the completion of the work. Further, all the constructional tools, plants, equipment and machineries provided by the contractor, on site of work or his workshop for this work, shall be exclusively intended for use in the construction of this work and they shall not be shifted/ removed from site without the permission of the Engineer-in-charge.

(ii) Slab cycle requirements

The contractor shall plan and design concrete strength at various stages of work commensurate to the slab cycle requirement through submitted shuttering plan/design, which shall be the sole responsibility of the contractor and this shall not absolve him of his responsibility despite approvals accorded by Engineer-in-charge. The quoted rate shall be deemed to include the cost of the above

- 1.46 The Contractor shall be responsible for maintaining all the work in good condition till the completion of entire work. The Contractor shall make good, all damages and repairs, rendered necessary due to fire, rain, traffic,

floods or any other causes. The Engineer-in- Charge shall not be responsible for any claims for injuries to person/workmen or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the Contractor or of any other of his representatives, in his employment during the execution of the work. The compensation, if any, shall be paid directly to the Department / authority / persons concerned, by the Contractor at his own cost.

1.47 ROYALTY

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

1.48 PRESERVATION AND CONSERVATION MEASURES

Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services, if any, encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. In case the same are to be removed and diverted, expenditure incurred in doing so shall be payable to the contractor. The contractor shall work out the cost, get the same approved by Engineer-in-charge before taking up actual execution. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

All fossils, coins, articles of value of antiquity, structures and other remains or things of geological or archaeological interest discovered on project location during excavation/construction shall be the property of the Government, and shall be dealt with as per provisions of the relevant Act. The contractor will take reasonable precaution to prevent his workmen or any other persons from removing and damaging any such article or thing. He will, immediately upon discovery thereof and before removal acquaint the Engineer-in-charge of such discovery and carry out the official instructions of Engineer-in- charge for dealing with the same, till then all work shall be carried out in a way so as not to disturb/damage such article or thing.

1.49 RESPONSIBILITY

- i) The contractor shall protect and indemnify the CPWD and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts.
- ii) The fee payable to statutory authorities for obtaining the various

permanent service connections and Building Use Certificate for the building shall be borne by the CPWD.

- iii) The contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify the CPWD from any and all damages and claims that may arise on any account. The Contractor shall indemnify the department CPWD against all claims in respect of patent rights, royalties, design, trademarks- of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.

1.50 CO-OPERATION WITH OTHER CONTRACTORS/ SPECIALIZED AGENCIES / SUB-CONTRACTORS

- (a) The Contractor shall take all precautions to abide by the environmental related restrictions imposed by any statutory body having jurisdiction in Puducherry as well as prevent any pollution of streams, ravines, river bed and waterways. All waste or superfluous materials shall be transported by the Contractor, entirely to the satisfaction of the Engineer- in-Charge and disposed at designated places only. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, lack of public transport, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the tenderers are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.
- (b) The Contractor shall cooperate with and provide the facilities to the sub- Contractors and other agencies working at site for smooth execution of the work. The contractor shall indemnify the Department (CPWD) against any claim(s) arising out of such disputes. The Contractor shall:
 - a. Allow use of scaffolding, toilets, sheds etc.
 - b. Properly co-ordinate their work with the work of other Contractors.
 - c. Provide control lines and benchmarks to his Sub-Contractors and the other Contractors.
 - d. Provide electricity and water at mutually agreed rates.
 - e. Provide hoist and crane facilities for lifting material at mutually

agreed rates.

- f. Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.
 - g. Adjust work schedule and site activities in consultation with the Engineer- in- Charge and other Contractors to suit the overall schedule completion.
 - h. Resolve the disputes with other Contractors/ sub-contractors amicably and the Engineer-in-Charge shall not be made intermediary or arbitrator.
- (c) The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines viz. sanitary & water supply, drainage, rain water harvesting, electrical, fire fighting, information technology, communication & electronics and any other services.
- (d) Other agencies will also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works and the contractor shall fix/leave the same at the time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
- (e) The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-In-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and in a proper co –ordinate manner and shall perform it in proper sequence to the complete satisfaction of others.

1.51 SUPERVISION OF WORK

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

minimum years experience in similar nature of work as mentioned in the clause 32 of the General Conditions of the Contract, shall always be available at the site during the actual execution of the work. The recovery rate as mentioned in the clause 32 shall be effected from the Contractor in the event of not fulfilling this provision.

1.52 Specialized Agencies

- (i) The composite bid comprises of two main components: viz, Civil work and Electrical work. The list of specialized items for **Electrical work** which is to be got executed through specialized agencies only.

The specialized agency should have successfully completed at least one work of similar nature and of appropriate magnitude commensurate to this work. Decision of Engineer -in- Charge shall be final and binding in this regard.

The contractor shall submit the following details of the specialized agency before execution of work for approval of Engineer - in - Charge:

List of similar works carried out by the agency during the last Seven years along with the name of work, name and address of clients, year of execution, value of work done and brief specification of the work. The credentials for such completed works shall be obtained from the Project Manager/Executive Engineer concerned along with contact address.

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

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

1.53 RATES

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

of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.

- (iv) All material shall only be brought at site as per program finalized with the Engineer- in- Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
- (v) The approval accorded by CPWD before acceptance of tender is only for tender evaluation. Any changes, modifications, revisions etc. required to be done by CPWD, client, local bodies, proof consultants etc. in accordance with applicable standards will have to be done at contractor's cost and nothing extra shall be payable.

1.54 SAFETY PRACTICES

- (i) **WARNING/ CAUTION BOARDS:** All temporary warning / caution boards / glow signage display such as "Construction Work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in-Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer – in – Charge. Nothing extra shall be payable on this account.
- (ii) **SIGN BOARDS:** The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, Client/Owner, Engineer-in-charges, Structural Consultants, Department etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies within 15 days from issue of award letter. Nothing extra shall be payable on this account. **In case of non compliance/delay in compliance in this, a penalty @ Rs. 1000/- per day will be imposed which will be recovered from the immediate next R/A Bill of the Contractor**
- (iii) Necessary protective and safety equipment such as helmet, safety shoes, gloves etc. shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor and also to the departmental officials supervising / inspecting the works by the Contractor at his own cost and to be used at site. Nothing extra will be paid on this Account.
- (iv) Nylon net (50x50mm aperture and 4mm dia) at site shall be fixed to hooks etc., along periphery of building at various levels required and as directed by Engineer-in-charge for safety of the working staff for which nothing extra will be paid on this account

- (v) No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer –in- Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

1.55 QUALITY ASSURANCE

- (i) The proposed work is prestigious and quality of work is of paramount importance. Contractor shall have to engage well-experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like exposed finish form work, specialized flooring work, silicon sealant and backer rod fixing in expansion joints, factory made door-window shutters, proper slope maintaining in toilet units, sanitary- water supply installation, water proofing treatment, will specially require engagement of skilled workers having experience particularly in execution of such items.
- (ii) The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material / work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-charge & contractor shall be bound to replace / remove such sub-standard / defective work immediately. If any material, even though approved by Engineer-In-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.
- (iii) In addition to the supervision of work, CPWD Engineers shall also be carrying out regular and periodic inspection of the ongoing activities in the work and deficiencies, shortcomings, inferior workmanship pointed out by them shall be communicated by CPWD engineers to the contractor. Upon receipt of instructions from Engineer in Charge these are also to be made good by necessary improvement, rectification, replacement upto complete satisfaction of Engineer -in-Charge.

Special attention shall be paid towards line and level of internal and external plastering, exposed smooth surface of RCC members by providing fresh shuttering plates, rubberized linings to all the shuttering joints, accurate joinery work in wooden doors and windows, thinnest joints in stone/ tiling / cladding work, non-hollowness in floor and dado tiles work, protection of scratches over flooring by impounding layer of plaster of Paris, water tight pipe linings, absence of hollow vertical joints in brick masonry, proper compaction of filled up earth etc. to achieve an Institution of International standards and up keeping of quality assurance shall be of paramount importance, as such.

- (iv) The Contractor shall submit, within 15 days after the date of award of work, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer-in-

Charge. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the specifications and shall pass all the tests required as per specifications as applicable or such specifications / standards as directed by the Engineer-in- Charge, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer-in-Charge.

- (v) All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-charge which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer-in-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per suggested list of brand names given in the tender document / particular specifications for approval of Engineer-in-Charge. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer-in-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval of Engineer-in-Charge.
- (vi) The Contractor shall procure and provide all the materials from the manufacturers / suppliers as per the list attached with the tender documents, as per the item description and particular specifications for the work. The equivalent brand for any item shall be permitted to be used in the work, only when the specified make is not available. This is, however, subject to documentary evidence produced by the contractor for non- availability of the brand specified and also subject to independent verification by the Engineer-in-Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards equivalent make of the material shall be final and binding on the Contractor. No claim, whatsoever, of any kind shall be entertained from the Contractor on this account. Nothing extra shall be payable on this account. Also, the material shall be procured only after written approval of the Engineer-in-Charge.
- (vii) All materials whether obtained from Govt. stores or otherwise shall be got checked by the Engineer-in-Charge or his authorized supervisory staff on receipt of the same at site before use.
- (viii) The contractor has to establish field laboratory at site including all necessary equipment for field tests as given in Schedule 'F'. All the relevant and applicable standards and specifications shall be made available by the contractor at his cost in the field laboratory. The contractor shall designate one of his technical representatives as Quality Assurance Engineer, who shall be responsible for carrying out all mandatory field/laboratory tests. The contractor shall also provide adequate supporting staff at his cost for carrying out field tests, packaging and forwarding of samples for outside laboratory tests and for maintaining test records.

- (ix) The tests, as necessary and where no field laboratory facilities are available, shall be conducted in the laboratory approved by the Engineer-in-Charge. For materials for which field testing equipment is established at site, for those materials 90% of total tests shall be done at the laboratory established at site by contractor and remaining 10% in the reputed laboratories approved by Engineer-in-charge. The samples shall be taken for carrying out all or any of the tests stipulated in the particular specifications and as directed by the Engineer-in-Charge or his authorized representative.
- (x) All the registers of tests carried out at Construction Site or in outside laboratories and all material at site (MAS) registers including cement register shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-charge. All the entries in the registers will be made by the designated Engineering Staff of the contractor and same should be regularly reviewed by JE/AE/AEE/EE. Contractor shall be responsible for safe custody of all the registers.
- (xi) The Contractor shall at his own risk and cost make all arrangements and shall provide all such facilities including material and labour, the Engineer-in-Charge may require for collecting, preparing, forwarding the required number of samples for testing as per the frequency of test stipulated in the contract specifications or as considered necessary by the Engineer-in-Charge, at such time and to such places as directed by the Engineer-in-Charge. Nothing extra shall be payable for the above.
- (xii) The Contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding on the Contractor. The Contractor or his authorized representative shall remain in contact with the Engineer-in-Charge or his authorized representative associated for all such operations. No claim of payment or claim of any other kind, whatsoever, shall be entertained from the Contractor.
- (xiii) All expenditure to be incurred for testing of samples e.g. collection, packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. The cost of material used for testing shall also be borne by the contractor.**
- (xiv) All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions before covering and their measurements in CMB/EMB duly test checked shall be deposited with Engineer in charge or his authorized representative, prior to hiding these items.
- (xv) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should confirm to bylaws and municipal body / corporation where CPWD Specifications are not available. The contractor should engage licensed plumbers for the work and get the materials (fixtures/fittings) tested by the Municipal Body/Corporation authorities

wherever required at his own cost.

- (xvi) The contractor shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
- (xvii) The contractor shall have to execute guarantee bonds in respect of water proofing works as per Performa enclosed.
- (xviii) The Contractor shall arrange electricity at his own cost for testing of the various electrical installations as directed by Engineer-in-Charge and for the consumption by the contractor for executing the work. Also all the water required for testing various electrical installations, fire pumps, wet riser / fire fighting equipment, fire sprinklers etc. and also testing water supply, sanitary and drainage lines, water proofing of underground sump, overhead tanks, water proofing treatment etc. shall be arranged by the contractor at his own cost. Nothing extra shall be payable on this account.

1.56 Minimum Quality Assurance Plan

- (i) Mandatory Tests shall be conducted as per CPWD specifications mentioned in Schedule A to F modified and corrected upto previous day of the last date of submission/ uploading of bid.
- (ii) Machinery and other tools & plants shall be deployed as specified in Schedule F.
- (iii) A field laboratory has to be set up by the contractor with all testing equipments as specified in Schedule F.
- (iv) The agency shall submit a shuttering schedule showing quantity of shuttering to be brought at site and its use. The schedule shall be approved by the Engineer-in-charge after review. If any changes are required by the Engineer-in-charge, the same shall be carried out by the agency.
- (v) Maintenance of Register of Tests –
 - (a) All the registers of tests to be carried out at Construction Sites or in outside laboratories shall be maintained by the contractor, which will be issued to the contractor by Engineer-in-Charge.
 - (b) All Samples of materials including Cement Concrete Cubes are taken jointly with Contractor by CPWD staff, as per percentage stipulated in the bid document or as decided by the Engineer-in-charge. All the necessary assistance shall be provided by the contractor. Cost of sample of materials including testing charges shall be borne by the contractor and he/ she shall be responsible for safe custody of samples to be tested at site.
 - (c) All the test in field lab setup at Construction Site shall be carried out by the Engineering Staff deployed by the contractor. The percentages of tests to be witnessed by the field officers shall be decided by the Engineer-in-charge. In case, it is not decided by the Engineer-in-charge, provisions of CPWD Quality Assurance Manual for building

works 2022 shall be applicable.

- (d) All the entries in the registers shall be made by the designated Engineering Staff of the contractor and same shall be regularly reviewed by the field officers as well as the Engineer-in-Charge. Contractor shall be responsible for safe custody of all the test registers.
- (vi) Proforma for Mandatory tests as per Appendix-B2 shall be attached with each Running bill. Submission of all test registers and material at site register along with each alternate Running Account Bill and Final Bill is mandatory for works costing more than 10 Cr. In case of works costing less than or equal to Rs 10 Crore, all test registers and MAS registers shall be submitted along with final bill.

If all the test registers and MAS register are not submitted along with each alternate R/A Bill & Final Bill as per above provision, no payment shall be released to the contractor.

- (vii) Maintenance of Materials at Site (MAS) Registers –
 - (a) All MAS Registers including Cement and Steel Registers shall be maintained by the Contractor which shall be issued to the contractor by Engineer-in-Charge.
 - (b) Each entry of receipt of material at site shall be 100% test checked by JE or by AE if there is no JE. If both JE & AE are available, AE should test check at least 50% of the entries.
 - (c) Each MAS Register shall be checked by JE & AE at least once a week.
 - (d) Cement Register shall be reviewed by EE at least once in a month for work at same station and alternate months for work at outstation.
 - (e) It shall be mandatory for the field staff to retain the self-attested (by agencies/ contractors) copies of Tax paid bills of the materials entered in the MAS Register viz., Steel, Cement, Bitumen, Paint, Primer, Distemper, Varnishes, Tile Adhesive, Admixture, Anti termite chemical, Water proofing compound material and any other item as decided by the Engineer-in-charge.
 - (f) Self-attested copies of Tax paid bills of materials taken in MAS Register shall be obtained by the field staff from the agencies/ contractors before settling the payments. In case of any doubt the same can be verified by the field staff. However, onus of genuiness of Tax paid bills rests with the agencies/ contractors.
- (viii) The contractor shall enure that the work is of required specifications and also the workmanship as per bid document and sound engineering practices.
- (ix) While sending samples of the material for testing in the external laboratories, the following shall be ensured:
 - (a) Letter for sending sample for testing of material shall be sent through e-mail to the Lab along with name (s) of test (s) to be done on the

material by AE/ EE concerned with the work. The Lab shall preferably generate QR/ Bar Code for each test of the work, and it will be pasted on the box at the time of receipt of sample mentioning the number and type of material, lab tests required etc. The labs shall invariably acknowledge receipt of sample and intimate through e-mail to AE, EE and contractor. The test reports shall be emailed by the lab to the AE, EE and contractor. The bill of the testing shall be sent to the contractor for payment with a copy to the AE/ EE for information.

- (b) The agency shall collect the sample & send it to the lab, make the necessary payment for the testing at the time of submitting the samples of material to the testing lab. If, he fails either to collect the samples or to submit to the lab, within the time mentioned in the specifications or within three working days, whichever is earlier, the department will make arrangement to collect and submit sample(s) and make the necessary payment to lab, the recovery on account of collection, submission and testing charges of samples shall be done from next R/A bill/ final bill of the agency.
- (c) If the agency fails three times in collection and submission of samples for materials or fails to make payments of testing to the testing labs at each occasion within seven days of receipt of bill from the concerned lab, the Engineer-in-Charge will send the case along with all documents and his recommendations to the CE/ SE (as the case may be) for initiating disciplinary action against the agency. CE/ SE will take action in the matter as under:
 - i. In case of non-enlisted contractors, CE/ SE will give an opportunity to the agency to submit his version within 15 days. After considering the reply of the agency, CE/ SE will take decision on debarment of the agency from participation in tendering in CPWD for a period of two years. However, running contracts shall remain unaffected by the debarment order,
 - ii. In case of CPWD enlisted contractors, CE/ SE will send the case to the Enlisting Authority along with his recommendations. As per directions of the Enlisting Authority, disciplinary action shall be initiated by the Empowered Committee as per extant enlistment rules. After considering the recommendation of the Empowered Committee, Enlisting Authority will take decision on debarment of the agency for a period of two years. However, running contracts shall remain unaffected by the debarment order.
- (x) CPWD's Quality Assurance Manual for building works 2022 shall be used for minimum assurance plan. In case of any discrepancy between CPWD specifications and Manual, the decision of Engineer in charge shall be final and binding.
- (xi) The Contractor shall submit, within 20 days after the date of award of work, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer in

charge. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the specifications and shall pass all the tests required as per specifications as applicable or such specifications/ standards as directed by the Engineer in charge. However, keeping the Quality Assurance in mind, the Contractor shall submit, on request from the Engineer in charge, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer in charge.

1.57 Submission and Documentation

- (i) The Contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc under various labour laws and other regulations applicable to the works, at his site office. He should also keep at site at least one set of BIS Codes and other relevant codes at site and produce the same if asked for by Engineer in charge. In case of non compliance, these codes will be purchased from the Market and actual cost of purchase will be recovered from the next RA Bill of the Contractor.
- (ii) The Contractor shall make available four (04) sets of completed Building Drawings, "As Built Drawings" along with literatures, manuals, warranty certificates etc. of various installed fittings, fixtures and equipment for the completed projects. This shall be the prerequisite for payment of final bill.
- (iii) The Contractor shall make available three (03) sets of all drawings of internal and external services i.e. Water Supply, Sanitary line and Drainage lines. This shall be the prerequisite for payment of final bill. These drawings shall have the following information.
 - Run off for all piping and their diameters including soil, waste pipes and vertical stacks.
 - Ground and invert level of all drainage pipes together with locations of all manholes and connections, up to outfall.
 - Run off for all water supply lines with diameters location of control valves, access panels etc.
- (iv) The contractor shall submit all measurements pertaining to the work timely through Electronic Measurement Book (EMB).
- (v) The Performance Guarantee shall not be released to the contractor until the aforesaid drawings are submitted to the Engineer in charge.
- (vi) The contractor will submit computerized measurement sheet/ EMB for the work carried out by him for making payment as per Clause-6 of the applicable GCC for CPWD with amendments upto the previous day of last date of submission of tender. For casting of RCC members and other hidden items the corrected and duly test checked measurement sheets of reinforcement or that of other hidden items shall be deposited with Engineer in charge or his authorized representative, before casting of RCC or other hidden items. The delay in submission of corrected and

duly checked measurement sheet may, therefore, delay casting of RCC or execution of hidden item for which no hindrance shall be recorded.

- (vii) To avoid delay, contractor should submit all samples well in advance so as to give timely orders for procurement.

1.58 Time and progress chart and revised program:

The Contractor shall prepare an integrated program chart before start of work including civil as well as E & M activities for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfilment of the program within the stipulated period and submit the same for approval of the Engineer in charge within the period specified in applicable GCC. These shall be submitted by the contractor through electronic media besides forwarding hard copies of the same. The integrated program chart so submitted should not have any discrepancy with the physical milestones attached in the contract agreement. The program chart should include the following:

- (i) Descriptive note explaining sequence of various activities.
- (ii) Construction Program shall be prepared on **MS PROJECT/PRIMAVERA/GANTT Software** or any other software as decided by Engineer in charge which will indicate resources in financial terms, manpower and specialized equipment for every important stage.
- (iii) Program for procurement of materials by the contractor.
- (iv) Program for arranging and deployment of manpower both skilled and unskilled so as to achieve targeted progress.
- (v) Program of procurement of machinery/ equipment having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.
- (vi) Program for achieving fortnightly micro milestones and periodic milestones.
- (vii) If at any time, it appears to the Engineer in charge that the actual progress of work does not conform to the approved program referred above, the contractor shall produce a revised program showing the modifications to the approved program by additional inputs to ensure completion of the work within the stipulated time.
- (viii) The submission for approval by the Engineer in charge of such program or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract. This is without prejudice to the right of Engineer in charge to take action against the contractor as per terms and conditions of the agreement.

1.59 Submission of Progress Reports

Apart from the above integrated program chart, the contractor shall be required to submit progress report of the work in a computerized form. The progress report shall contain the following, apart from whatever else may be required as specified above:

- (a) Construction schedule of the various components of the work through a bar chart for the next two fortnights (or as may be specified), showing the micro- milestone/ milestones, targeted tasks (including material and labour requirement) and up to date progress. At least 10 (ten) digital photographs showing all the parts of construction site along with at least 5 (five) minutes video of executions of different items in soft copy has to be submitted in every fortnightly progress report.
- (b) Progress chart of the various components of the work that are planned and achieved, for the fortnight as well as cumulative up to the fortnight under reckoning, with reason for deviations, if any in a tabular format.
- (c) Plant and machinery statement, indicating those deployed in the work.
- (d) Man-power statement indicating:
 - Individually the names of all the staff deployed on the work, along with their designations.
 - No. of skilled workers (trade wise) and total no. of unskilled workers deployed on the work and their location of deployment i.e. blocks.
- (e) Financial statement, indicating the broad details of all the running account payment received up to date, such as gross value of work done, advances taken, recoveries effected, amount withheld, net payments details of cheque payment received, extra/ substituted/ deviation items if any, etc.
- (f) In case of noncompliance/ delay in compliance in submission of progress report, recovery as specified in applicable GCC shall be made.

1.60 Project Review Meetings

- (i) The contractor, immediately on award of work shall submit details of his key personnel to be engaged for the work at site as per relevant Clause of applicable General Conditions of Contract and other contract conditions. In addition, he shall furnish the Engineer in charge a detailed **organogram** involved with the work. The contractor shall present the programme and status at various review meetings as required.
- (ii) **Weekly Review Meetings:** Shall be attended by Local Team headed by Project in Charge along with PMC team and client representative for every alternative week's

Agenda	a) Weekly programme v/s actual achieved in the past week and programme for next week b) Remedial actions and hold up analysis c) Any decision on quarries raised either by contractor/ PMC
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- (iii) **Monthly Review Meetings:** Shall be attended by Project in Charge and the Management Representative who can take independent decisions along with PMC team and client's representatives.

Agenda	a) Progress Status/ Statistics b) Completion Outlook c) Major hold ups/ slippages d) Assistance required e) Critical issues f) Any decision on queries raised either by Contractor/ PMC g) Anticipated cash flow requirement for next two months
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1.61 Temporary Water/ Electricity/ Telephone Connection

- (i) Arrangement of temporary telephone connection, water and electricity required by Contractor, shall be made by him at his own cost and also necessary permissions shall be obtained by him directly from concerned authorities, under intimation to the Department. Also, all initial cost and running charges, and security deposit, if any, in this regard shall be borne by him. The Contractor shall abide by all the rules/ bye laws applicable in this regard and he shall be solely responsible for any penalty on account of violation of any of the rules/ byelaws in this regard. Nothing extra shall be payable on this account. The contractor can use ground water by digging bore well from the site premises if permissible. He shall maintain the bore log details, static water table, yield, and drawdown level of the bore well and the same shall be handed over to the department. After completion of work he can take out the submersible pump and the bore will become property of employer.
- (ii) The Contractor shall be responsible for maintenance of watch and ward of the complete installation and water/ electricity meter and shall also be responsible for any pilferage, theft, damage, penalty etc. in this regard. The Contractor shall indemnify the Department against any claim arising out of pilferage, theft, damage, penalty etc. whatsoever on this account. Security deposit for the work shall be released only after No Dues Certificates are obtained from the local Authorities from whom temporary electric/ water/ telephone connection have been obtained by the Contractor. Nothing extra shall be payable on this account.

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

1.62 Cleanliness of Site

- (i) The Contractor shall not stack building material/ malba / muck on the land or road of the local development authority or on the land owned by the others, as the case may be. So, the muck, rubbish etc. shall be removed periodically as directed by the Engineer in charge, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor.

Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material/ malba as stated above, the Contractor shall be liable to pay the stacking charges/ penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer in charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.

- (ii) The contractor shall take instructions from the Engineer in charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.
- (iii) The site of work shall be always kept clean due to constraints of space and to avoid any nuisance to the users of buildings in the adjacent plots. The Contractor shall take all care to prevent any water logging at site. The waste water, slush etc. shall not be allowed to be collected at site. It may be directly pumped into the creek with prior approval of the concerned authorities. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. All the fees/ charges in this regard shall be borne by the Contractor. Nothing extra shall be payable on this account.

1.63 Inspection of Work

- (i) In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by Officers of CPWD/ CTE/ vigilance unit/ TPOA/ User Department and their representatives. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer in charge or other officers as stated above to visit the works shall have been given to the contractor, either himself be present to receive the orders and instructions or have a responsible representative duly accredited in writing, to be present for that purpose.
 - (ii) Inspection of the work by Committee/ Consultant appointed by the CPWD.
 - a. The committee/ consultant appointed by CPWD, shall be inspecting the works including workshops and fabrication factory to ensure that the works are in general being executed according to the design, drawings and specifications laid down in the contract. His observations shall be communicated by CPWD Engineering staff and compliance is to be reported to CPWD.
 - b. The consultant appointed by CPWD shall certify on completion of particular building that it has been constructed according to the approved drawings design and specifications.
 - (iii) Officers of CPWD, Dignitaries from Central Ministry/ Department, User Department shall be inspecting the on-going work at site at any time with or without prior intimation. The contractor shall, therefore, keep updated the following requirements and detailing.
 - a. Display Board showing detail of work, weekly progress achieved with respect to targets, reason of shortfall, status of manpower, wages being paid for different categories of workers.
 - b. Entrance and area surrounding to be kept cleaned.
 - c. Display layout plan key plan, Building drawings including plans, elevations and sections.
 - d. Upto date displays of Bar chart, CPM and PERT etc.
 - e. Keep details of quantities executed, balance quantities, deviations, possible Extra item, substituted Item etc.
 - f. Keep plastic/ cloth mounted one sets of building drawings.
 - g. Set of Helmets and safety shoes for exclusive use for officers/ dignitaries visiting at site.
 - (iv) The work may be inspected by Chief Technical Examiners Organization of Central Vigilance Commission/ Vigilance Unit of CPWD/ Any other authority. In such case the contractor shall make all arrangements for providing required details/ documents.
- 1.64** The NIT approving authority /Engineer-in-Charge/ Team of Officers of the department & client may conduct necessary inspection(s), before dispatch of materials at manufacturer's factory. The contractor has to arrange necessary arrangements for inspection of materials including conducting necessary required tests in the manufacturing unit. The expenditure

towards arrangement of inspection & testing of materials at the manufacturer's factory shall be borne by the contractor and nothing extra shall be payable to the contractor on these accounts.

1.65 Final Testing of the Installation

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

1.66 Submission of as built drawings and obtaining Occupation Certificate

The contractor shall submit as-built building drawings including all MEP and E&M Services atleast 5 (Five) sets in A0 size (Coloured Prints) and in 3 (Three) sets of Pendrives.

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

1.67 General Clarifications

- (i) Unless otherwise specified in the schedule of quantities, the rates for all items of work shall be considered, as inclusive of pumping out or bailing out water, if required throughout the construction period for which no extra payment shall be made. This shall also include water encountered from any source such as rains, floods, sub soil water table being high and/ or due to any other cause whatsoever.
- (ii) All stone aggregate and stone ballast shall be of hard stone variety to be obtained from approved quarries.
- (iii) Coarse sand should be obtained from approved sources. The same shall be clean and sharp angular grit type. The coarse sand shall be screened before using, if required. If the sand brought to site is dirty, it must be washed in clean water to bring the sand to the required specifications. Nothing extra shall be payable on this account.
- (iv) The rates for all items of work, shall unless clearly specified otherwise, include cost of all operations and all inputs of labour, material, T & P, scaffolding, wastages, watch and ward, other inputs, all incidental charges, all taxes, CESS, VAT/ GST, duties, levies etc. required for execution of the work.

1.68 Product delivery, Storage and handling of Chemicals

- (i) The contractor shall construct storage space for Chemicals materials to ensure that the storage conditions are as recommended by the manufactures.
- (ii) All the materials shall be procured and delivered in sealed containers with labels legible and intact.

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

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

1.69 De-watering

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

1.70 Mandatory requirement of Insurance Policies for the entire project period

- (i) Before commencing the execution of work, the Contractor shall, without in any way limiting his obligations and liabilities, insure at his own cost and expense against any damage or loss or injury, which may be caused to any person or property, at site of work.
- (ii) The Contractor shall obtain and submit to the Engineer in charge "Contractor All Risk Insurance Policy" for an amount 1.25 times the contract amount for this work, with Engineer in charge as the first beneficiary. The insurance shall be obtained in joint names of Engineer in charge and the Contractor (who shall be second beneficiary). Also, he shall indemnify the Department from

any liability during the execution of the work.

- (iii) Further, he shall obtain and submit to the Engineer in charge, a third party insurance policy for maximum Rs.10 lakh for each accident, with the Engineer in charge as the first beneficiary. The insurance shall be obtained in joint names of Engineer in charge and the Contractor (who shall be second beneficiary).
- (iv) The Contractor shall, from time to time, provide documentary evidence as regards payment of premium for all the Insurance Policies for keeping them valid till the completion of the work. The Contractor shall ensure that Insurance Policies are also taken for the workers of his Sub-Contractors/ specialized agencies also. Without prejudice to any of its obligations and responsibilities specified above, the Contractor shall within 10 days from the date of letter of acceptance of the tender and thereafter at the end of each quarter submit a report to the Department giving details of the Insurance Policies along with Certificate of these insurance policies being valid, along with documentary evidences as required by the Engineer in charge.
- (v) No work shall be commenced by the Contractor unless the contractor obtains the Insurance Policies as mentioned above. Also, no payment shall be made to the Contractor on expiry of insurance policies unless renewed by the Contractor. Nothing extra shall be payable on this account. No claim of hindrance (or any other claim) shall be entertained from the contractor on these accounts.

1.71 Training of the personnel

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

1.72 Third Party Quality Assurance (TPQA):

- (a) In order to achieve a high standard of quality, a separate agency if required shall be appointed by CPWD who will carry out independent testing of materials and checking and ensure overall quality procedures. The Contractor shall be required to fully cooperate with the agency and facilitate them in taking samples, transportation and examination of various activities including documentation at no extra time and cost. In case of any adverse findings by the agency, the Contractor shall do the needful rectifications at no extra time and cost. The Engineer in charge shall be at liberty for ensuring quality work done through agencies like IITs/ NITs/ IIITs/ Govt. Engineering College or any Institute of Repute. The successful Bidder shall include the provisions of Quality Assurance while framing the proposed methodology for tests. The expenditure towards engaging TPQA team shall be borne by the department.

- (b) The Contractor shall allow access to Third Party Quality Assurance (TPQA) engaged by Engineer in charge to have a control on quality and methodology of execution. All the arrangements required for sampling, transporting and getting them tested including testing charges shall be borne by the agency/ Contractor for which nothing extra shall be payable. The Contractor shall extend full cooperation to Third Party Quality Assurance Agencies engaged by the department for the Project during their field visits for arranging the necessary quality assurance tests for materials and the construction works.

1.73 Preferred Makes (Brands) of materials:

Preferred makes (brands) of materials, wherever applicable and in the scope of work, are given in the tender document for guidance. Alternate equivalent makes (brands) may also be used subject to:

- a) The contractor submits all documents to the satisfaction of the NIT approving authority/SE(Puducherry) or his successor thereof to prove that the alternate make meets the contract specifications in all respect and is equivalent to the specified make.
- b) The necessary cost adjustments, if any, on account of the above change shall be made by the Engineer in charge.
- c) The NIT approving authority/SE(Puducherry) or his successor thereof approves the alternate equivalent make.

1.74 Defect liability period:

- (i) Defect liability period shall be as per conditions laid down in applicable General Conditions of Contract for CPWD from the date of handing over the building to the User/ Owner/ Client complete in all respects & fit for occupation. During this period, the defects noticed in the work shall be rectified by the contractor at his own cost. In case he fails to do so after intimation to him in writing by the Engineer in charge, the same shall be carried out by the Department at his risk and cost.
- (ii) However, maintenance of other building activities such as cleaning, sweeping of pocket & desilting of sewer lines, S.W. Drain shall be done only once, at the time prior to handing over the building.

1.75 Compliance of directives of Hon'ble National Green Tribunal (NGT) dated 04.12.2014 and 10.04.2015 and EIA Guidance Manual issued in February 2010.

The contractor shall comply with the following guidelines on the matter in pursuance of orders passed by Hon'ble National Green Tribunal.

- (i) The contractor shall not store/ dump construction material or debris on metalled road.
- (ii) The contractor shall get prior approval from Engineer in charge for the

area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic / inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.

- (iii) The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/ area using CGI sheets or plastic and/ or other similar material to ensure that no construction material dust fly outside the plot area.
- (iv) The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/ or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/ contaminate air.
- (v) The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
- (vi) The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
- (vii) The contractor shall ensure that C&D waste is transported to the C&D waste site only and due record shall be maintained by the contractor.
- (viii) The contractor shall compulsorily use of wet jet in grinding and stone cutting.
- (ix) The contractor shall comply all the preventive and protective environmental steps as started in the MoEF guidelines, 2010.
- (x) The contractor shall carry out on-road-inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
- (xi) The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
- (xii) The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
- (xiii) The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.

(xiv) Nothing shall be paid extra for fulfilling of all the above conditions except for the items existing in the schedule of quantities. For such items, work done shall be paid on the basis of the agreement rates.

1.76 The scope of work includes submission of five sets of hard copies of **all** drawings (in A0 size or any other size as directed by the Engineer in charge) i.e., Architectural, Structural, Service drawings and any other drawings related to this work to the Engineer in charge. The cost shall be deemed to be inclusive of rate quoted by the agency/ contractor and nothing extra shall be paid separately to the agency/ contractor for this item.

1.77 Recycling, Reuse, and Management of C&D Waste

The contractor shall use recycled construction and demolition (C&D) waste materials in the execution of work, subject to availability of a C&D waste processing plant and the following materials in the near vicinity. The Engineer in charge shall find out whether C&D waste processing plant is available in the near vicinity or not. In case the Engineer in charge finds that the plant is available in the near vicinity, the materials which are found available in the plant shall be used. The decision of Engineer in charge in writing shall be final and binding on all issues related to it.

1.78 Use of Fly Ash Bricks/ Blocks & AAC Blocks: Fly ash bricks, blocks made from recycled C&D waste, or AAC blocks may be used for masonry work in non-structural elements.

1.79 Use of Recycled Aggregates & Sand: Up to 20% recycled sand and 20% recycled aggregate, conforming to IS: 383-2016, may be used in non-structural elements of the project.

1.80 Ready-Mix Concrete (RMC) Supply: RMC plants supplying concrete for non-structural elements may use 20% recycled sand and 20% recycled aggregate, conforming to IS: 383-2016. Preference may be given to RMC plants that have an MoU or agreement with a C&D waste processing plant for sourcing recycled aggregates.

1.81 Precast Tiles: Precast tiles manufactured using up to 20% recycled materials from C&D waste, incorporating recycled sand and aggregate as per IS: 383-2016, may be used in the project.

1.82 Sand Filling Requirements: Manufactured sand obtained from a C&D waste processing plant, conforming to IS: 383-2016, may be used for sand filling applications such as filling under floors, behind retaining walls, and in approach roads.

1.83 Concrete Blocks, Pavers, Kerb Stones, and Footpath Tiles: CC blocks, paver blocks, kerb stones, and concrete tiles used in footpaths may incorporate recycled materials from C&D waste processing plants, conforming to IS: 383-2016.

1.84 Cement Plaster Requirements: Manufactured sand obtained from a C&D

waste processing plant, conforming to IS: 383-2016, may be used for cement plastering works.

- 1.85 Quarterly Demand Forecasting:** If the contractor opts to use recycled materials, quarterly demand forecasts should be shared with C&D waste processing plant operators for better planning and scheduling of plant operations.

All materials used shall comply with relevant IS codes and shall be executed as per the technical specifications, bid document requirements, and the direction of the Engineer-in-Charge.

- 1.86** No claim whatsoever for idle labour, additional establishments, costs of hire and labour charges for tools and plants etc. would be entertained under any circumstances.

- 1.87** For the safety of all labour directly or indirectly employed in the work for the performance of the contractor's part of this agreement, the contractors shall, in addition to the provisions of CPWD safety code and directions of the Engineer-in-charge make all arrangements to provide facility as per the provisions of Indian Standard Specifications (Codes) listed below and nothing extra shall be paid on this account.

1. IS 3696 Part I Safety Code for scaffolds and ladders
2. IS 3696 Part II Safety Code for scaffolds and ladders Part II ladders
3. IS 764 Safety Code for excavation work
4. IS 4111 Safety Code for Blasting and Drilling operations,
5. IS 4138 Safety Code for working in compressed air.
6. IS 7293 Safety Code for working with construction machinery
7. IS 7969 Safety Code for storage and handling of building materials

- 1.88** The contractor shall take all precautions to avoid all accidents by exhibiting necessary caution boards and by providing red flags, red lights and barriers. The contractor shall be responsible for any accident at the site of work and consequences thereof.

- 1.89** EPF and ESIC paid by the contractor to the concerned department and on demand the applicable contributions as per GCC will be reimbursed to him by the Engineer-in-Charge after satisfying that it has been actually and genuinely paid by the contractor.

- 1.90** The contractor has to make arrangements for providing inspection lift for the inspection of various floors by department officers, wherever applicable.

- 1.91** The testing of materials shall be carried out from the IITs , NITs, Central / State Government Engineering Colleges or any approved laboratories as approved by the SDG (Chennai.)

- 1.92** The provisions of deviation / extra items in a contract must be utilised exclusively within the scope of particular work and in no case be extended to other works under any circumstances.

- 1.93** The RMC & Hotmix Plants shall be got approved by the Superintending Engineer, Puducherry and Contractor shall ensure that the quality and strength of cement concrete & Hot mix procured from RMC & Hot Mix Plants respectively, are as per design requirement through a well defined quality control system, testing of samples, transportation of concrete & Hot mix and continuous analysis of results as per CPWD specifications and relevant India standards.
- 1.94** Restrictions may be imposed by the security staff of client department etc., on the working and for the movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account.
- 1.95** The demolishing of existing building/structure 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 jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra will be paid on this account.
- 1.96 Minimum Eligibility Criteria for the OEM(s) to be Associated with the supply of furniture and accessories.**
- The successful tenderer shall submit an undertaking from the approved and an eligible OEM regarding:
1. Authorization certificate.
 2. The OEM shall unconditionally support the lowest tenderer technically throughout the execution of contract as well as for maintenance/ comprehensive maintenance contract including comprehensive Warranty & Guarantee period, for the useful life of the furniture and accessories.
 3. OEM shall provide all the spares required for the healthy functioning of the equipment/furniture for at least ten years from the date of supply of equipment.
- 1.97** All Furniture items and accessories shall be fabricated in the workshop / Factory only, on State of Art facility with Modern Machineries. No fabrication will be allowed at the site. Fabricated items shall be transported to site in proper packing & assembled/erected in position as per approved layout.
- 1.98** All the materials brought to site shall be protected suitably, duly wrapped/ packed and stored so as to avoid any damage during loading/ transportation/unloading/handling/installation/ erection or sue to weather condition etc. at any stage.
- 1.99** All prefabricated components & other materials brought at site shall be subject to inspection & approval out from the lot of finished products brought at site by the bidder. In case any material is found unsatisfactory/unacceptable, the same shall be removed from the site within 48 hours, failing which it may be got removed by the Engineer- in-charge from the site at the risk & cost of the bidder.

1.100 Unless otherwise provided in the schedule of quantities, the rates quoted by the firm/agency shall be inclusive of all materials, labour, Machinery charges, taxes etc. as on date of opening of bids including incidental expenses, packing charges, transportation to site & fixing in position at various places/floors in the building. **The materials will not be allowed to be taken through the Mechanical Elevators/ Lifts installed in the building, the same have to be carried through the staircases.** No claim whatsoever on this account shall be entertained afterwards.

1.101 DURING INSPECTION AND TESTING

The Engineer-in-charge or officer(s) authorized by him may inspect the material at manufacturer's facility in India before dispatch. The department reserves the right to get the furniture & fixtures inspected by third party also. Such inspection shall be of the following categories:

- a. Inspection of materials/ furniture & fixture to be witnessed at the manufacturer's premises/ at its authorized manufacturing facility in India, in accordance with relevant BIS/ Agreement Inspection Procedure.
- b. To receive material at site with manufacturer's Routine & Type Test certificates.
- c. To inspect material at the authorized dealer's godown to ensure delivery of genuine material.
- d. To receive material after physical inspection at site.

Bidder shall take adequate care to ensure that only tested and genuine materials of proper quality are used in work. The bidder shall ensure that: Material will be ordered and delivered at site only with prior approval of the department. The bidder shall, however, be responsible for timely delivery of material. As and when the order is placed for the items, it shall be endorsed to the engineer-in-charge along with details of Agency, model no. and other delivery details.

1.102 Structural design should cover the following general requirements

The structural design shall be carried out in terms of latest editions and up-to-date correction/amendment/errata of BIS Codes (Bureau of Indian Standards), other relevant seismic/other codes for making Building Earthquake Resistant, sound engineering practices and as desired by the client/ Employer. The Contractor will also get proof checking of structural drawings with Reputed Engineering Institutes like IITs, as approved by the Engineer-in-charge for proof checking of structural drawings/proposals prepared by the structural Engineer. The fee for proof checking shall be borne by the Contractor. The Contractor will liaison and co-ordinate with such Institute approved by NIT Approving Authority as and when required and as per the direction of Engineer –in-charge. Any changes suggested at later stage in architectural drawings shall be incorporated in the design and required structural drawing shall be proof checked without any extra cost.

Submission of all design calculations in hard and soft copies as per the direction of Engineer – in-charge.

6. FORM "F" RECEIPT OF DEPOSITION OF ORIGINAL EMD

Proforma for receipt of original EMD to be issued by an Executive Engineer of CPWD (in case of deposition of original EMD in his office by the bidder) including **Executive Engineer (Puducherry), CPWD, Puducherry** to the bidder.

(Receipt No -----/ Date-----)

1. Name of Work: **Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.**
2. NIT No: **26/EE(Civil)Puducherry-I/CPWD/2026-27**
3. Estimated Cost: **Rs. 97,87,228/-**
4. Amount of EMD: **Rs. 1,95,745/-**
5. Last Date of Submission of bid: **14-08-2026**

PRESCRIBED FORMAT TO BE FILLED BY EMD RECEIVING OFFICER

1. Name of Contractor :
2. Form of EMD:
3. Amount of EMD :
4. Date of Submission of EMD :

Signature

Name and Designation of EMD Receiving officer
(EE/AE(P)/AE/AAO) along with Office stamp

- 1) The Authority receiving EMD in original form examines the EMD deposited by the bidder and issues receipt of deposition of earnest money to the agency in a given format uploaded by tender inviting authority. The receipt can also be issued by any subordinate gazetted authority as authorized by the EE/Engineer in Charge /DDH.
- 2) The authority receiving original EMD also intimates tender inviting authority about deposition of EMD by the agency by email/fax/telephonically.
- 3) **The earnest money given by all the tenderers except the lowest tenderer shall be refunded immediately after the expiry of stipulated bid validity period or immediately after acceptance of the successful bidder, whichever is earlier. However, in case of two/ three bid system earnest money deposit of bidders unsuccessful during technical bid evaluation etc. should be returned within 30 days of declaration of result of technical bid evaluation.**
- 4) The tender inviting authority calls for original EMD of the L1 tenderer from EMD receiving authority immediately.

7. FORM 'G'NON- BLACK LISTED

AFFIDAVIT

Name of work: Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.

NIT No: 26/EE(Civil)Puducherry-I/CPWD/2026-27

I/we undertake and confirm that our firm/partnership firm has not been blacklisted by any state/Central Departments/PSUs/Autonomous bodies during the last 7 years of its operations. Further that, if such an information comes to the notice of the department then I/we shall be debarred for bidding in CPWD in future forever. Also, if such information comes to the notice of the department on any day before date of start of work, the Engineer-in-charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

NOTE: Affidavit to be furnished on a 'Non-Judicial' stamp paper worth Rs.100/-

**Signature of Bidder(s) or an authorized
Officer of the firm with stamp**

Date:

Signature of Notary with seal

8. FORM 'I' - DECLARATION ABOUT SITE INSPECTION

To,
The Executive Engineer (Puducherry),
CPWD, Nirman Bhawan,
Puducherry.

Name of work: Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.

NIT No:26/EE(Civil)Puducherry-I/CPWD/2026-27

Dear Sir,

It is hereby declared that as per **CPWD-6 FOR e-BIDDING**, I/ We the bidder inspected and examined the subject site and its surrounding and satisfy myself / ourselves as to the nature of the ground and sub-soil (so far as is practicable), the forms and nature of the site/ ourselves before submitting the bid, the accommodation which may require and all necessary information as to risks, contingencies and other circumstances which may influence or affect our bid have been obtained. I/We the bidder shall have full knowledge of the site and no extra charge consequent upon any misunderstanding or otherwise shall be claimed in later date.

I /We bidder shall be responsible for arranging and maintaining at own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by me/us implies that I / We have read this notice and all other contract documents and has made myself /ourselves aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of the work.

Yours faithfully

(Duly authorized signatory of the bidder)

Note: The details shall be scanned and uploaded online.

9. CPWD-6 FOR E- TENDERING

1. **Percentage rate** bids are invited on behalf of President of India from **approved and eligible Buildings & Road category contractors of CPWD}** for the Work of **Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.**

The enlistment of the contractors should be valid on the last date of submission of bids.

In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.

- 1.1. The work is estimated to cost **Rs. 97,87,228/-** . This estimate, however, is given merely as a rough guide.

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

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

2. Agreement shall be drawn with the successful bidders on prescribed Form No. **CPWD 7** (or other Standard Form as mentioned) which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **One (01) Month** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. The site for the work is available. The architectural and structural drawings if any required, shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work.
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website <https://etender.cpwd.gov.in> or www.cpwd.gov.in at free of cost

6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
8. When bids are invited in three stage system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.
9. Earnest Money in the form of **Insurance Surety Bonds, Account Payee Demand draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee including e- Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks (drawn in favour of Executive Engineer (Puducherry), CPWD, Puducherry)** shall be scanned and uploaded to the e-Tendering website within the period of bid submission. The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT. A part of earnest money is acceptable in the form of bank guarantee also. In such case, **minimum 50% of earnest money or Rs. 20 lac, whichever is less**, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee **including e- Bank Guarantee** of any **Commercial** bank having **validity for a period of 90 days for single bid works and for 180 days for two bid system or more from the last date of receipt of bids** which is to be scanned and uploaded by the intending bidders.

The earnest money given by all the tenderers except the lowest tenderer shall be refunded immediately after the expiry of stipulated bid validity period or immediately after acceptance of the successful bidder, whichever is earlier. However, in case of two/ three bid system, earnest money deposit of bidders unsuccessful during technical bid evaluation etc. should be returned within 30 days of declaration of result of technical bid evaluation.

Copy of Enlistment Order and certificate of work experience and other documents as specified in the notice inviting e-Tender shall be scanned and uploaded on the e-Tendering website within the period of bid submission.

However, certified copy of all the scanned and uploaded documents as specified in e-Tender notice shall have to be submitted by the lowest bidder within a week physically in the office of tender opening authority. Online bid documents submitted by intending bidders shall be opened only of those bidders, who has deposited EMD with any division of CPWD and other documents scanned and uploaded are found in order.

The bid submitted shall be opened at **03.30PM** on **14-08-2026**.

10. The bid submitted shall become invalid and e-Tender processing fee (if applicable) shall not be refunded if:
 - 10.1. The bidder is found ineligible.
 - 10.2. The bidder does not upload scanned copies of all the documents Stipulated in the bid document.

- 10.3. If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.
- 10.4. If a bidder quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in Percentage Rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
11. The contractor whose bid is accepted will be required to furnish **performance guarantee at specified percentage of the tendered amount as mentioned in Schedule E and** within the period specified in Schedule F. This guarantee shall be in the form of **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks** in accordance with the prescribed form. **In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee.**
The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board and programme chart (Time and Progress) **within time specified in** Schedule F including Provident Fund Code No. (If applicable) and also ensure the compliance of aforesaid provisions by the sub-contractors, if any engaged by the contractor for the said work within the period specified in Schedule F.
12. The description of the work is as follows: **Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.** Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents.

Submission of a bid by a bidders implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

13. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.
14. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.
15. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.
16. The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the Central Public Works Department or in the Ministry of Housing and Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
17. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
18. The bid for the works shall remain open for acceptance for a period of **thirty (30) days from the date of its opening of bids** in case of single bid system and ~~75 (Seventy Five) days from the date of its opening of technical bids in case bids are invited in 2 or 3 bid system.~~

Further

- (i). If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department within 7 days after last date of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
- (ii). If any tenderer withdraws his tender or makes any modification his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department after expiry of 7 days after last date of submission

of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.

- (iii). In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the same work.

19. This notice inviting Bid shall form a part of the contract document. The successful bidder/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-

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

21. The intending bidders are required to update their profile in CPWD e- tender portal and to upload their bids well in advance of last date of submission of tender. Any issue related to updating profile / uploading tender can be resolved through the concerned Executive Engineer/ Assistant Engineer (Phone no: 0413-2272059, e-mail Id: pyddopcd.cpwd@gov.in) or ERP help line no. 18001803286 or e-mail Id: cpwd.support@techmahindra.com. The e-tendering bidders are also advised not to wait to raise any issues till the last date of submission of bid in their own interest.

22. Price Preference to SC/ST individual contractor for item rate/percentage rate tender: Price preference in quoted item rate/percentage rate tender shall be applicable to the individual enlisted/non-enlisted SC/ST contractor as under:

For work(s) upto and equal to an estimated cost of Rs.2.70 lakh a price preference upto 5% (with reference to the lowest valid tender) may be allowed in favor of individual SC/ST enlisted/non-enlisted contractor. No earnest money is required in such case(s).

For work(s) beyond an estimated cost of Rs. 2.70 lakh and upto and equal to estimated cost of Rs. 6.20 lakh, the price preference upto 5% (with reference to the lowest valid tender) may be allowed in favour of individual enlisted SC/ST contractor. However, earnest money at a reduce rate of ½ may be accepted in such cases.

The price preference upto 5% (with reference the lowest valid price bid) may be allowed in favour of individual SC/ST contractor only. The above concession shall be allowed only after proper verification of the individual contractor's claim of belonging to SC/ST community.

10.CPWD- 7

GOVERNMENT OF INDIA CENTRAL PUBLIC WORKS DEPARTMENT

STATE: **Puducherry**

BRANCH: **B & R**

REGION: SDG **Chennai**

CIRCLE: **SE (Puducherry)**

DIVISION: **EE (Puducherry)**

SUB- DIVISION: **O/o AE III**

Percentage Rate Tender & Contract for Works

Tender for the work of " **Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps. "**

- (i) **Last date and time of submission of e-tenders shall be up to 03.00 PM on 14-08-2026 and the Period during which EMD documents shall be submitted shall be up to 02.30 PM on 14-08-2026**
- (ii) **To be opened in presence of bidders who may be present at 03.30PM on 14-08-2026 in the office of EE(Puducherry), CPWD, PUDUCHERRY.**

TENDER

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

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

I/We agree to keep the tender open for **(30) Thirty days** from **the due date of its opening in case of single bid system/seventy Five (75) days** from the date of opening of technical bid in case tenders are invited on 2 /3 bid/ system for specialised work and not to make any modification in its terms and conditions. ~~(strike out as the case may be).~~

I/We have deposited EMD for the prescribed amount in the office of concerned Executive Engineer as per the bid document.

A copy of earnest money deposit **receipt of prescribed amount deposited in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's**

Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank is scanned and uploaded (strike out as the case may be). If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/we agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy be at liberty to forfeit the said earnest money absolutely. Further, if I /we fail to commence work as specified, I/we agree that President of India or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said the performance guarantee absolutely. The said performance guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

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

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

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

Dated.....

Signature of contractor

Witness:

Postal Address

Address:

Occupation:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the President of India for a sum of Rs. _____ (Rupees_____)

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

- (a)
- (b)
- (c)

For & on behalf of the President of India.

Signatures.....

Dated:

Designation

11. FORM OF BANK GUARANTEE FOR EARNEST MONEY DEPOSIT/PERFORMANCE GUARANTEE/ SECURITY DEPOSIT/ MOBILIZATION ADVANCE
On Non-judicial stamp paper of minimum Rs. 100/-

(Guarantee offered by Bank to CPWD in connection with the execution of contracts)
Whereas the **Executive Engineer (Puducherry), CPWD, Puducherry** on behalf of the President of India (hereinafter called "The Government") has invited bids under .(NIT No. **26/EE(Civil)Puducherry-I/CPWD/2026-27**dated for" **Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.** The Government has further agreed to accept irrevocable Bank Guarantee for Rs. (Rupees only) valid up to..... (date)*.....as **Earnest Money Deposit** from (name and address of contractor), (hereinafter called "the contractor") for compliance of his obligations in accordance with the terms and conditions of the said NIT.

OR**

Whereas the Executive Engineer (Puducherry), CPWD, Puducherry on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number with(name and address of the contractor).....(hereinafter called "the Contractor") for execution of work. "
Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps. ".The Government has further agreed to accept an irrevocable Bank Guarantee for Rs. (Rupees only) valid upto.....(date).....as **Performance Guarantee/security Deposit/Mobilization Advance from the said Contractor for**

compliance of his obligations in accordance with the terms and conditions of the agreement.

1. We, (indicate the name of the bank)..... (herein after referred to as "the Bank"), hereby undertake to pay to the Government an amount not exceeding Rs.,.....,..... (Rupees only) on demand by the Government within 10 days of the demand.
1. We, (indicate the name of the Bank) do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. (Rupeesonly)
2. We, (indicate the name of the Bank) , further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the contractor shall have no claim against us for making such payment.
3. We, (indicate the name of the Bank) further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
4. We, (indicate the name of the Bank) further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.

5. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
6. We,..... (indicate the name of the Bank)....., undertake not to revoke this guarantee except with the consent of the Government in writing.
7. This Bank Guarantee shall be valid up to.....unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.....(Rupees.....only)and unless a claim writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date.....

Witnesses:

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Signature.....
Name and address | <p>Authorized signatory
Name

Designation

Staff code no.

Bank seal</p> |
| <ol style="list-style-type: none"> 2. Signature.....
Name and address | |

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

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

12. PROFORMA SCHEDULES

SCHEDULE 'A'

Schedule of quantities (as per PWD-3): **As per separate schedule attached**

SCHEDULE 'D'

Extra schedule for specific requirements / documents for the work, if any, Nil

SCHEDULE 'E'

Reference to General Conditions of contract. (~~GCC EPC Projects 2022/GCC maintenance works 2023/GCC Construction Works 2023~~)

Applicable GCC is GCC Construction works 2023 as modified & corrected upto previous day of the last date of submission of the tender.

Name of work: **Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.**

Estimate cost of work	Rs. 97,87,228/-
i) Earnest money	Rs. 1,95,745/- (to be returned after receiving performance guarantee)
ii) Performance Guarantee	(a) 5% of tendered value or Estimated Cost Put to Tender (ECPT) (Whichever is Higher) (b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount. Ref.OM No.DG/CON/Construction/2023/20 Dt:27.02.2026
iii) Security Deposit	2.5% of tendered value

SCHEDULE 'F'

General Rules & Directions:

Officer inviting tender **EE(Puducherry), CPWD, PUDUCHERRY**
Maximum percentage for quantity of items **see below**
of work to be executed beyond which rates

are to be determined in accordance with
Clauses 12.2 & 12.3.

Definitions:

- | | | |
|----------|---|---|
| 2 (v) | Engineer- in- Charge for Civil : | EE(Puducherry), CPWD, PUDUCHERRY or his successor thereof |
| 2 (viii) | Accepting Authority | EE(Puducherry), CPWD, PUDUCHERRY or his successor thereof |
| 2 (x) | Percentage on cost of materials and labor to cover all overheads and profits.
Standard Schedule of Rates for Civil | 15 %

DSR-2021 enhanced for GST with 1.0633 and inclusive of Cost index 12% with upto date correction Slips / amendments & Market Rates for Non-scheduled items. (Being risk and cost tender under clause 14) |
| 2(xii) | Department | <u>Central P.W.D</u> |

9 ii) **Contract Form** : Standard CPWD Contract Form **General Condition of Contract Construction works 2023, CPWD Form 7/8 as modified & corrected upto previous day of the last date of submission of the tender.**

Clause 1

- | | | |
|-----|--|---|
| i) | Time allowed for submission of Performance Guarantee, Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying there of from the date of issue of letter of acceptance | 2 days(The Performance Guarantee shall be submitted by the Contractor on format as per GCC 2023 and shall be initially valid up to the stipulated date of completion plus minimum 6 Months beyond that). |
| ii) | Maximum allowable extension with late fee @0.1% per day of performance Guarantee amount beyond the period provided in (i) above | 1 days with late fee @0.1% perday of performance Guarantee amount (Non-refundable) |

Clause 2

Authority for fixing compensation under clause 2	SE(Puducherry), CPWD, Puducherry or his successor thereof
--	--

Clause 2A Not Applicable

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start	Three (03) Days
---	------------------------

Mile stone(s) as per table given below:-

Sl. No.	Description of milestone (Physical)	Time allowed in days (from date of start)	Amount to be withheld in case of non achievement of Mile(s) Stone
1	25% Value of the work	10 Days	1.25 % of tendered amount
2	60% Value of the work	17 Days	1.25 % of tendered amount
3	85% Value of the work	24 Days	1.25 % of tendered amount
4	100% Value of the work	30 Days	1.25 % of tendered amount

Time allowed for execution of work **One (01) Month**

Authority to decide:

- Authority to convey the decision of shifting of milestone and extension of time **EE(Puducherry)/ CPWD, Puducherry or his successor thereof**
- Authority to decide rescheduling of milestone and extension of time **SE(Puducherry)/ CPWD, Puducherry or his successor thereof**
- Shifting of Date of Start in case of delay in handing over of site **SE(Puducherry)/ CPWD, Puducherry or his successor thereof**

PROFORMA OF SCHEDULES Clause 5 Schedule of handing over of site

Part	Portion of site	Description	Time Period for handing over reckoned from date of issue of letter of intent.
Part A	Portion without any hindrance	Full site	(03) days
Part B	Portions with encumbrances	-	-
Part C	Portions dependent on work of other agencies	-	-

Clause 6 Computerized Measurement Book (CMB)/ Electronic Measurement Bok (EMB) through CPWD ERP portal

Electronic Measurement Book (EMB) through CPWD ERP portal.

Clause 7

Gross work to be done together with net payment/ adjustment of advances for material collected, if any since the last such payment for being eligible to interim payment

Rs. 97.67 Lakhs ± Clause 12%

Clause 7A

Whether Clause 7A shall be applicable : **YES**

Clause 7B

Payment to third party

if the exigencies of the work so demand, the engineer-in-charge may allow payment to a third party, who is creditor to the contractor, after fulfilling the following conditions.

- The contractor gives an authority letter addressed to the engineer-in-charge on a nonjudicial stamp paper of Rs.100 in the format given below.

I/We authorize the Executive Engineer, **Puducherry Division**, CPWD to pay directly on my/our behalf to (name of the third party) an amount of Rs.....(Rupeesin words) for the work done or supplies made by(name of the third party). I/We shall be responsible for the quality and quantity of the same under the provisions of agreement number.....

(b) The total payment to third party (or parties) shall not exceed 10% of the agreement cost of the work.

Signature of the contractor

Clause 10A List of testing equipment to be provided by the Contractor at site lab.	As per [TABLE-I] -List of Equipments for Field Testing Laboratory as attached
Clause 10B (ii) Whether Clause 10B (ii) shall be applicable	Not applicable
Clause 10C Component of labour expressed as percent of Value of work	Not Applicable,
Clause 10CC	Applicable/Not Applicable
Clause 11 Specifications to be followed for execution of work For Civil Work	CPWD specification 2019 Vol. I to II with correction upto date of receipt of tender
Clause 12 Type of Work	Construction work
12.2 & 12.3 Deviation Limit beyond which clauses	100% (One hundred percent)
12.2 & 12.3 shall apply for building work and sanctioning authority.	100% (One hundred percent)
Clause 16 Competent Authority for deciding reduced rates	SE (Puducherry), CPWD, Puducherry or his successor thereof.
Clause 18 List of mandatory machinery, tools & plants to be deployed by the contractor at site	As per the list mentioned TABLE-2 Field Testing Instruments
Clause 19C authority to decide penalty (including amount) for default	EE(Puducherry),CPWD, Puducherry
Clause 19 D authority to decide penalty (including amount) for default	EE(Puducherry),CPWD, Puducherry

Clause 19 G authority to decide penalty (including amount) for default **EE(Puducherry),CPWD, Puducherry**

Clause 19 K authority to decide penalty (including amount) for default **EE(Puducherry),CPWD, Puducherry**

Clause 25

Constitution of Conciliator:

Conciliator	Special Director General (Chennai), CPWD, Chennai-90 or his successor thereof
Arbitrator appointing authority	Superintending Engineer (Puducherry), CPWD, Puducherry or his successor thereof
Place of Arbitration	Puducherry / Chennai

Note: The above constitution of Conciliator is subject to change, for which necessary notification shall be issued by the competent authority of the department, if required

Clause 32

Requirement of Technical Representative(s) and recovery Rate

S. No.	Minimum qualification of Technical Representative	Discipline	Designation (Principal Technical)	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36(i)	
						Figures	Words
1	Graduate Engineer or Diploma Engineer	Civil	Project Manager cum planning/quality/Site/billing Engineer	2 or 5 respectively	1	Rs.15,000/- per month per person	Rupees Fifteen Thousand per month per person

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

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

Clause 38

(i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of **Delhi Schedule of Rates 2023** printed by C.P.W.D.

(ii) Variations permissible on theoretical quantities:

(a)	Cement	
	For works with estimated cost put to tender not more than Rs. 25 lakh.	3% plus/minus.
	For works with estimated cost put to tender more than Rs. 25 lakh.	2% plus/minus.
(b)	Bitumen All Works.	2.5% plus & only & nil on minus side

(c)	Steel Reinforcement and structural steel sections for each diameter, section and category	2% plus/minus
(d)	All other materials.	Nil

(iii) Permissible Wastage on Theoretical quantities permissible

Sl. No.	Material	Remarks
1	Full body verified tiles for flooring for NIT Schedule Item No.8.5.1	Permissible wastage 5% plus (or) as per actual consumption whichever is lower.
2	Full body Vitrified tiles for skirting for NIT Schedule Item No.8.6.1	
3	Polished Granite for NIT Schedule Item No.8.9.2	
4	Flamed/honed/Leather finish Granite stone for NIT Schedule Item No. 8.8.1	

(IV) Recovery Rates for Quantities beyond permissible variation for 38(iii)

SI No	Description of item	Rate in figures and words at which recovery shall be made from the contractor	
		Excess beyond permissible variation	Less use beyond the Permissible variation
1	Vitrified tiles for flooring	Double the value of cost of material as per DSR-2021 enhanced for GST with 1.0633 plus of Cost index 12% = $560 \times 1.0633 \times 1.12 = 666.09$ = $2 \times 666.09 = 1332.18$	NA
2	Vitrified tiles for skirting	Double the value of cost of material as per DSR-2021 enhanced for GST with 1.0633 plus of Cost index 12% = $560 \times 1.0633 \times 1.12 = 666.09$ = $2 \times 666.09 = 1332.18$	NA
3	Polished Granite for flooring	Double the value of cost of material as per DSR-2021 enhanced for GST with 1.0633 plus of Cost index 12% = $2000 \times 1.0633 \times 1.12 = 2381.79$ = $2 \times 2381.79 = 4763.58$	NA
4	Flamed/honed/Leather finish Granite stone	Double the value of cost of material as per DSR-2021 enhanced for GST with 1.0633 plus of Cost index 12% = $1000 \times 1.0633 \times 1.12 = 1190.90$ = $2 \times 1190.90 = 2381.80$	NA

13. PARTICULAR SPECIFICATIONS & SPECIAL CONDITIONS (CIVIL)

1. GENERAL

- 1.1. Wherever any reference to any Indian Standard Specifications of BIS or other International standards of ASTM / BS/EN occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued there-to or revisions thereof, if any, up to the date of receipt of tenders.
- 1.2. The contractor shall take instructions from the Engineer-in-charge for stacking of materials at site. No excavated earth or building materials shall be stacked on areas where the buildings, roads, services or compound walls are to be constructed.
- 1.3. If as per Municipal or prevailing rules of the secured campuses owned by paramilitary forces, Institutions etc, the huts for labour are not to be erected at the site of work by the contractors, the contractors shall provide such accommodation at such locations as are acceptable to local bodies with all provisions concerning labour safety & sanitation as contained in the relevant clause of the contract, for which nothing shall be payable.
- 1.4. Unless otherwise provided in the Schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing shall be payable to him on this account.
- 1.5. The working drawings shall mean to include both architectural and structural drawings respectively. The structural and architectural drawings shall be properly correlated before executing the work. In case of any difference noticed between architectural and structural drawings, final decision, in writing of the Engineer-in-charge shall be obtained by the contractor before proceeding further.
- 1.6. Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restriction / instructions including issue of identity cards to all persons authorized by him to do work / visit the work site and nothing shall be payable on this account.
- 1.7. The contractor shall make his own arrangements for obtaining electric connections, if required, and make necessary payments directly to the department concerned.
- 1.8. The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor (s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed, so as not to interfere with the operations of other contractors, or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of Engineer-in-Charge. The contractor shall be responsible for any damage due to hindrance caused by him.

- 1.9. Cast iron pipes and fittings without ear shall be used. However, pipes and fittings with ears may be accepted without any extra payment. In such cases, clamps are not required and no extra payment shall be made for fixing the pipes in a different manner.
- 1.10. Any cement slurry added over base surface for bond or for continuation of concreting, for protecting reinforcement bars, its cost shall be deemed to have been included in the respective items, unless specified otherwise and nothing extra shall be payable nor extra cement shall be considered in the cement consumption on this account.
- 1.11. Stacking of materials and excavated earth including its disposal shall be done as per the directions of the Engineer-in-Charge. Double handling of materials or excavated earth if required at any stage shall have to be done by the contractor at his own cost.
- 1.12. No claim for idle establishment & labour, machinery & equipments, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.
- 1.13. Only Star headed Stainless Steel screws shall be used unless otherwise specified.
- 1.14. Work shall be carried out in professional manner with finished product serving the intended purpose with specified strength, durability and aesthetics.
- 1.15. Work activities shall be executed in well thought out sequences such that consequent activities not adversely affecting previously done work. Nothing extra shall be payable to protect the works already done.
- 1.16. The contractor shall prepare all the needed shop drawings well in advance and get them approved before placing the order and execution of the item.
- 1.17. The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer - in -Charge and bear all charges and cost of testing which shall not be reimbursed.
- 1.18. The contractor shall not store /dump construction material or debris on metalled road.
- 1.19. The contractor shall get prior approval from Engineer-in-charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic / inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
- 1.20. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot / area using CGI sheets or plastic and / or other similar material to ensure that no construction material dust fly outside the plot area.
- 1.21. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes / or are carrying construction material like

cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that en route their destination, the dust, sand or any other particles are not released in air / contaminate air.

- 1.22. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
- 1.23. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
- 1.24. The contractor shall ensure that C&D waste is transported to the C & D waste site only and due record shall be maintained by the contractor.
- 1.25. The contractor shall compulsory use of wet jet in grinding and stone cutting.
- 1.26. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
- 1.27. The contractor shall carry out on-Road-Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
- 1.28. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
- 1.29. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
- 1.30. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
- 1.31. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.

2. FLOORING, SKIRTING, VENEERING, DADO, TREADS & RISERS OF STEPS, JAMBS, SILLS & SOFFITS

- 2.1. Nothing extra shall be payable for using combination of marble, granite and kota in the required pattern at various locations unless otherwise specified.
- 2.2. Flooring in toilets, verandah, kitchen, courtyard and at other places if required shall be laid to the required slope/gradient as per the directions of the Engineer-in-Charge and nothing extra shall be paid on account of the same.
- 2.3. The pattern, spacing and locations of joints shall be as per drawings and direction of the Engineer-in-Charge and nothing extra shall be paid on account of the same.

3. SPECIALISED ITEMS

3.1. LIST OF SPECIALISED ITEMS

- 3.1.1. Water proofing treatment work
- 3.1.2. Steel work in steel bridge work, space frames for long span structures, steel towers.
- 3.1.3. Special foundations including all types of piles.
- 3.1.4. RCC overhead tank with independent staging.
- 3.1.5. Structural Repair and rehabilitation/retrofitting works.
- 3.1.6. Soil investigation and survey work.
- 3.1.7. Façade cleaning system and façade cleaning.
- 3.1.8. Custom made wooden furniture (factory made)
- 3.1.9. Diaphragm Walls.
- 3.1.10. Post Construction Anti Termite Chemical treatment.
- 3.1.11. Water Treatment Plants.
- 3.1.12. Security to vacant bungalows/premises.
- 3.1.13. Tentage Works.
- 3.1.14. Washing/dry cleaning works.
- 3.1.15. Synthetic play area surface for games.
- 3.1.16. Electronic/Digital signages.
- 3.1.17. Environment Impact Assessment Study and Environment Clearance.

3.2. PROCEDURE FOR EXECUTION OF THE SPECIALIZED ITEMS

Such items should be got executed only through associated agencies specialized in these fields. The contractor shall indicate the name(s) of his associated specialized agencies those fulfilling the conditions described in para 3.1.3 of CPWD Works Manual-2019 as early as possible and within one month of award of work to Engineer-in-Charge for approval of competent authority.

3.3. SPECIALIZED AGENCIES

- 3.3.1. Specialized Agencies for items in case of Civil works shall be approved by the competent authority. The contractors shall quote the rates after careful study of contract conditions, specifications, drawings & schedule of quantities. Authorized agency of OEM shall only be allowed for execution of expansion joint system as per NIT condition and specification.
- 3.3.2. It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialized Agencies without any time & cost overrun to the Department. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on

account of litigation/ dispute between him and the specialized agencies / sub-contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. No extension of time shall be granted and no claim what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agencies.

- 3.3.3. For specialized items, the main contractor cannot work as a specialized agency unless his name is already included in the list of approved specialized agencies for these items. The contractor shall get these items executed through the specialized agencies as approved by competent authority.

3.4. RATES

- 3.4.1. The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers as per drawing supplied by Engineer in charge, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.
- 3.4.2. The rates quoted by the bidder, shall be firm and inclusive of all taxes and levies (including works contract tax but excluding service tax).
- 3.4.3. No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.
- 3.4.4. All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work,

the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement & other storage, fabrication yard, site laboratory, water tank etc.

3.4.5. For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, not with-standing the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.

3.4.6. All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.

3.5. CLEANLINESS OF SITE

The Contractor shall not stack building material / malba / muck/ rubbish on the land or road of the local development authority or on the land owned by the others, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer-in-Charge, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material / malba as stated above, the Contractor shall be liable to pay the stacking charges / penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.

3.6. INSPECTION OF WORK

In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by other senior officers of CPWD in addition of the Engineer-in-Charge and his authorized representative. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer-in-Charge or other officers as stated above to visit the works shall have been given to the Contractor, either himself be present to receive the orders and instructions or have a responsible Site Engineer duly accredited in writing, to be present for that purpose Senior Officers of CPWD Authorities shall be inspecting the on-going work at site at any time with or without prior intimation.

3.7. GUARANTEE FOR WATER PROOFING TREATMENT

The contractor shall give 05 (Five) years performance guarantee in the prescribed proforma for the water proofing treatment. In addition 10% (Ten percent) of the cost of water proofing items shall be retained as security, to watch the performance of the work executed. However, half of this amount (withheld) shall be released after five years, after the completion of the work, if no defect comes to notice. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within Seven days after serving the notice by Department and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor. In any case the guaranteeing firms during the guarantee period shall inspect and examine the treatment once every year and make good any defect observed and Certificate to that effect shall be submitted to Department every year. However, the 10 % security deposit referred above can be replaced with bank guarantee of equivalent amount for relevant period.

4. STAINLESS STEEL RAILING/HANDRAILS:

4.1. GENERAL

The contractor shall apply all materials, labour, tools, ladders, scaffolding and other equipments necessary for the completion and protection of all stainless steel work.

4.2. MATERIAL

All stainless steel pipes and plates shall conform to AISI 304 in 18/8 composition. 18 will be chromium and 8 will be Nickel and carbon content will be 0.03 maximum and the relevant clauses associated with this grade of steel to be followed.

4.3. SURFACE FINISH

Surface finish of all the stainless steel materials will be in 240 grit satin finish / matt finish.

4.4. ACCESSORIES

Fixing will be done by stainless steel expansion bolts of approved size and make as per Engineer-in-charge and welding to be done by using organ welding rods and the surface being duly finished and cleaned by K2 passivation, which is nitric acid plus florid acid solution treatment by which the chances of corrosion will be eliminated and any burn out makes on the metal will also be eliminated.

4.5. COATING MASS

All stainless steel material will have to be coated by a solution of Inox to avoid finger in prints and avoidance of settlement of environment / atmospheric dust.

4.6. MEASUREMENT

All the stainless steel finished parts shall be weighed correct to a gram and paid on weight basis.

4.7. RATE

The rate shall include the cost of all the materials, machinery and labour involved in all the operations described above including cartage, lifts and all taxes like Sales Tax / VAT, Excise duty, Octroi etc. as applicable.

Any incidental additional requirements for execution of this item to the satisfaction of Engineer-in-Charge shall also be treated as included in the item and shown in attached drawing and nothing extra will be paid for such extra work. Installation drawings for approval of the Engineer-in-charge-in-Charge and no work shall be performed until the approval of these drawings is obtained.

5. CO-OPERATION WITH OTHER CONTRACTORS/SPECIALIZED AGENCIES / SUB-CONTRACTORS

- 5.1. The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupants of the adjacent properties and to the public in general .The Contractor shall take all care, as not to damage any other adjacent property or other services running adjacent to the plot. If any damage is done, the same shall be made good by the Contractor at his own cost and to the entire satisfaction of the Engineer-in-Charge. The Contractor shall use such methodology and equipments for execution of the work, so as to cause minimum environmental pollution of any kind during construction. Further, the Contractor shall take all precautions to abide by the environmental related restrictions imposed by Madhya Pradesh Pollution control board, Govt. of Madhya Pradesh.

Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the Bidders are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.

- 5.2. The Contractor shall cooperate with and provide the facilities to the sub-Contractors and other agencies working at site for smooth execution of the work.

- 5.3. The Contractor shall :

5.3.1. Allow use of scaffolding, toilets, sheds etc.

5.3.2. Properly co-ordinate their work with the work of other Contractors.

5.3.3. Provide control lines and benchmarks to his Sub-Contractors and the other Contractors.

5.3.4. Provide electricity and water at mutually agreed rates.

5.3.5. Provide hoist and crane facilities for lifting material at mutually agreed rates.

5.3.6. Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.

5.3.7. Adjust work schedule and site activities in consultation with the Engineer-in-Charge and other Contractors to suit the overall schedule completion.

5.3.8. Resolve the disputes with other Contractors/ sub-contractors amicably and the Engineer-in-Charge shall not be made intermediary or arbitrator.

5.4. The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines viz. sanitary & water supply, drainage, rain water harvesting, electrical, fire fighting, information technology, communication & electronics and any other services.

5.5. Other agencies will also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be supplied free of cost by the department unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.

5.6. The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-In-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and in a proper co-ordination manner and shall perform it in proper sequence to the complete satisfaction of others.

6. CONSUMPTION OF PIG LEAD AND IT'S VARIATION FOR SCI SANITARY PIPES AND FITTINGS AS PER IS:3989

In order to ensure that adequate lead is poured properly into the joints and to control waste in use of lead for caulking of joints of SCI pipes and fittings, at the beginning of the work three or four sample joints shall be made and the quantum of lead per joint approved by the Engineer in charge. The actual consumption of lead should be within variation of 5% of the approved sample job. This variation includes allowances of wastage also. If the actual consumption of pig lead is less than the required consumption worked out on the above basis, the recovery on account of less use of lead shall be made from the contractor at market rate to be determined by the Engineer-in-charge, whose decision in the matter shall be final & binding.

7. FIXING OF SCI/CI PIPE

The SCI/CI pipes and G.I. pipes, wherever necessary, shall be fixed to RCC columns, beams etc. with rawl plugs, or appropriate fasteners as approved by Engineer-in-Charge, and nothing extra shall be payable on this account. GI pipes shall be wherever made to pass through wall / concrete then it shall be done using protective sleeves all round the pipes to protect it from damage, nothing extra shall be payable on this account.

14. CONDITION FOR CEMENT & STEEL TO BE BROUGHT BY THE CONTRACTOR

1. Cement

2. The contractor shall procure cement (43 grade OPC conforming to IS:8112/ PPC fly ash based conforming to IS:1489-part-I / Portland Slag Cement conforming to IS: 455) as required in the work, from reputed manufacturers of cement as mentioned in the list of approved brands / makes such as **ACC, Birla, J.K., Coromandal, Ultratech, Zuari, Ambuja and Dalmia Bharat cement**. Supply of cement shall be taken in 50kg bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS codes. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so. Every fresh cement batch should be brought to site at least 30 days before they are to be used / consumed in the work.
3. The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer-in-Charge.
4. The cement godown of the capacity to store a minimum of 2000 bags capacity or 2 months requirement whichever higher, shall be constructed by the contractor at site of work for which no extra payment shall be made. Double lock provision shall be made to the door of cement godown. The keys of one lock shall remain with Engineer-in-Charge or his authorized representative and keys of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge or his authorized representatives.
5. The cement shall be got tested by the Engineer-in-Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laboratories. The frequency and details of the tests shall be decided by the Engineer-in-Charge depending on the quantum of supply in each batch. The cost of tests shall be borne by the contractor.
6. The actual consumption of cement on work shall be regulated and proper accounts be maintained by the contractor. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by the conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at rate so prescribed shall be made. In case of excess consumption, no adjustment shall be made.

Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge.

7. Damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-charge. If he does not do so within 3 days of receipt of such notice, the Engineer-in-charge shall get it removed at the cost of the contractor.
8. The cement bags shall be stacked on proper floors consisting of two layers of dry bricks laid on well-consolidated earth at a level of at least one foot above ground. The stacks shall be in rows of 2 and 10 bags high with minimum of 0.6m clear. Bags should be placed horizontally continuous in each line. Actual size / shape of go down shall be as per site requirement and nothing extra shall be paid on this account. The decision of Engineer-in- charge regarding capacity shall be final.
9. Cement register for the cement shall be maintained at site. The account of daily receipts and issues of cement shall be maintained in the register in the proforma prescribed and signed daily by contractor or his authorized agent.

15. SPECIAL CONDITION FOR STEEL REINFORCING BARS TO BROUGHT BY THE CONTRACTOR

1. Steel Reinforcing Bars, the Guidelines prescribed in OM No. CSQ/SE(TAS)/Steel/@024/262 (H), Dt.14.08.2024 of SE (TAS), Directorate General, Nirman Bhawan, New Delhi shall be followed.
2. The Contractor shall procure IS marked low alloy TMT bars of various grades from the steel Manufacturers such as **SAIL, TISCO (TATA), VIZAG and JSW** or their authorised dealers having valid BIS license for IS: 1786 (latest version with upto date Amendments)
3. 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.
4. 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 results indicate that the steel arranged by the contractor does not conform to the specifications as defined under para 1 above, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week's time of written orders from the Engineer in charge to do so.
5. The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more or as decided by the Engineer in charge.
6. 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.
7. For checking nominal mass, tensile strength, bend test, re-bend test, etc., specimens of sufficient length shall be cut from each size of the bar at random, and at frequency given in applicable CPWD specifications.
8. The contractor shall supply free of charge the material required for testing. All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.
9. The actual issue and consumption of steel on work shall be regulated and proper accounts shall be maintained as provided in relevant clause of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in relevant clause of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations, recovery at the rate so prescribed shall be made. In case of excess consumption, no adjustment needs to be made.
10. The steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer in charge.

**SPECIAL CONDITION FOR STRUCTURAL STEEL (TEE, ANGLE, CHANNEL,
STRUCTURAL TUBES AND PLATES & R.S. JOIST)**

- 10.1. The contractor shall procure Structural steel (Tee, Angle, Channel, Structural Tubes and plates & R.S. joist) from primary producers (SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd. and JSW steel Ltd.).

In case of non availability of structural steel from primary producers the NIT approving authority may permit use of structural steel procured from steel producers having valid BIS license confirming to IS -2062-2006.

- 10.2. Samples shall be taken and got tested by the Engineer-in-charge confirming to relevant BIS code. In case the test results indicate that the structural steel arranged by the contractor does not conform to the specification, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week's time or written orders from the Engineer-in-charge to do so.
- 10.3. The structural steel shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account.
- 10.4. The contractor shall supply free of charge the structural steel sample required for testing including its transportation to testing laboratories . The cost of test (i/c. packaging , sealing, transportation, loading, unloading etc) shall be borne by the contractor.
- 10.5. The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.
- 10.6. In case contractor is permitted to use structural steel other than above mentioned make as in 10.1 then:
- 10.6.1. Base Price of Structural Steel as stipulated under Schedule 'F' shall be reduced by 3500/-MT However, for operation of provision of clause 10CA in such case the indices for structural steel will be considered same as indicated in Indices issued by DG.CPWD for primary producer.
- 10.6.2. The quoted rate of relevant item of tender of structural steel work shall be reduced by 4.00 per Kg.
- 10.7. If the actual weight of structural steel to be used in the work differs from standard weight, the following procedure shall be followed for arriving at the quantity for payment.
- 10.7.1. If the actual weight is more than standard weight only standard weight shall be considered for payment.
- 10.7.2. If the actual weight is less than standard weight but within the permissible vitiation, only actual weight shall be considered for payment.

11.REINFORCED CEMENT CONCRETE WORK

11.1. DESIGN MIX CONCRETE

- 11.1.1. The RCC work shall be done with Design Mix Concrete unless otherwise 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 designed based on the principles given in IS: 456-2000. The contractor shall design mixes for each grade of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. In case of use of admixture and or white cement, the mix shall be designed with these ingredients as well.
- 11.1.2. The concrete mix design will be carried out by the contractor through one of the following laboratories / Test houses and ready mix concrete shall conform to accepted design mix. a) IIT Chennai. b) Pondicherry Engineering College, Puducherry or any other Government institution as approved by Engineer-in-charge.
- 11.1.3. In the event of all the above laboratories being unable to carry out the requisite design / testing the contractor shall have to get the same done from any other laboratory with prior approval of the Engineer-in-Charge.
- 11.1.4. The contractor shall submit the mix design report from any of above approved laboratories for approval of Engineer-in-Charge within 45 days from the date of issue of letter of acceptance of the tender.
- 11.1.5. In case of white Portland cement and the likely use of admixtures where CC/RCC is done with concrete pumps in concrete with ordinary Portland/white Portland cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and /or admixtures also, for which nothing extra shall be payable.
- 11.1.6. Each time when there is change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised mix design shall be done and approval obtained from the approved Laboratory or as per the direction of the Engineer-in-Charge. Preferably only single source of cement shall be kept for the work. In case contractor decides to use more than one source of approved cement brand then for each brand separate design mix shall be done and got approved by Engineer-in-charge.
- 11.1.7. The Mix shall be designed to produce the grade of concrete having required workability and characteristic strength not less than as specified.
- 11.1.8. The mix design for a specified grade of concrete shall be done for a target mean compressive strength $T_{ck} = F_{ck} + 1.65 S$

Where,

F_{ck} = Characteristic compressive strength at 28 days.

S= Standard deviation

The standard deviation for each grade of concrete shall be calculated separately.

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

Grade of Concrete	For “Good” quality of control
M 20	4.0
M 25	4.0
M 30	5.0
M 35	5.0

- 11.1.9. 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 likely to be attained at 28 days. All cost of mix designing and testing connected therewith including charges payable to laboratory shall be borne by the Contractor.
- 11.1.10. The samples of cement, aggregate (fine & coarse) to be sent to the laboratories shall be sealed in the presence of the Engineer- in -Charge and shall have his signature and cost of packaging, sealing, transportation, loading, unloading, cost of samples and the testing charges for Mix design in all cases shall be borne by the contractor.
- 11.1.11. 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.
- 11.1.12. The Engineer-in-Charge reserves the right to exercise control over the ingredients, water and admixtures, purchased, stored and to be used in the concrete including conducting of tests for checking quality of materials fit or unfit for use in production of mix.
- 11.1.13. The Contractor shall submit the test data of the material used for concrete mix-design in the laboratories, so the material being used at site can be compared with those data / size etc.
- 11.1.14. In case of change of parameters of ingredients (sand, cement, coarse aggregate) fresh concrete mix-design to be done as mentioned in paras 11.1.1, 11.1.2 & 11.1.6 to 11.1.10 above and got approved from the Engineer-in-Charge before execution.
- 11.1.15. The contractor shall make arrangement to install a mini laboratory at site for accelerated testing of design mix concrete as per IS : 9013. The department reserves right to take samples of design mix concrete from the mass production of the concrete for testing and compare with the laboratory's results.
- 11.1.16. Nothing shall be paid extra for installation and cost of batching plant and other arrangement for making necessary test of design mix concrete.
- 11.1.17. The item of design mix cement concrete shall be inclusive of all the ingredients including admixtures if required, labour, machinery T & P etc. (except shuttering which will be measured & paid for separately) required for

a design mix concrete of required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of change in quantities of concrete ingredients like aggregates and admixtures as per the approved mix design.

11.1.18. Concrete shall be handled from the place of mixing to the place of final deposit / placement by methods, which prevent segregation, or loss of any ingredients and contamination.

11.1.19. Where concrete is conveyed by chutes, the chute shall be made of metal or fitted with metal lining. The approval of the Engineer-in-charge shall be obtained for the use of chutes in excess of 3 metres length and in such cases the concrete shall be remixed if so required by the Engineer-in-Charge or closed bottom buckets shall be used. If concrete is placed by pumping, the conduit shall be primed properly. Once pumping is started, it shall not be interrupted as far as possible. Concrete shall not be dropped into place from a height more than 1.5m.

11.1.20. Concreting of any portion of the work shall be done in presence of the representative of the Engineer-in-Charge and shall be done only after approval of the Engineer-in-Charge.

11.1.21. Concreting shall be carried out continuously between constructions joints shown on the drawings or as agreed by the Engineer-in-Charge. The contractor shall closely follow the sequence of concreting where it is specified in the drawings. If concreting is interrupted before reaching the predetermined joint an approved construction joint shall be provided. Construction joints shall be minimized as far as possible. These shall be set at right angles to the general direction of the member. The surface film of the first placed concrete should preferably be removed while the concrete is still green to expose the aggregate and leave a sound irregular surface. However care shall be taken not to disturb the concrete already laid.

11.1.22. Admixtures: Wherever required, admixtures of approved quality only shall be mixed with concrete as specified. The admixtures shall conform to IS: 9103. The chloride content in the admixture shall satisfy the requirements of BS: 5075. The total amount of chlorides in the admixture mixed concrete shall also satisfy the requirements of IS 456-2000.

11.1.23. Use of ready mixed concrete (RMC) may also be permitted, with prior approval of Engineer –in – Charge, without any extra payment. Separate account of design mix concrete and RMC shall however be kept. The ready mixed concrete shall conform to the requirement of durability, workability and strength as laid down for design mix concrete.

11.2. USE OF FLY ASH AND FLY ASH BLENDED CEMENTS IN RCC STRUCTURES

11.2.1. General

11.2.1.1. IS : 456-2000 Code of Practice for plain and Reinforced Concrete (as amended up to date) shall be followed in regard to Concrete mix Proportion and its production as under :-

- 11.2.1.1.1. The concrete mix design shall be done as “Design Mix Concrete” as prescribed in clause – 9 of IS 456 mentioned above.
- 11.2.1.1.2. Concrete shall be manufactured in accordance with clause 10 of above mentioned IS : 456 covering quality assurance measures both technical and organizational, which shall also necessarily require a qualified Concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.
- 11.2.1.2. Minimum M25 grade of concrete shall be used in all structural elements made with RCC both in load bearing and framed structure.
- 11.2.1.3. The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of flyash mixed concrete or concrete using flyash blended cements (PPCs) should not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC. Fly ash when used in the production of concrete shall be strictly in conformity with IS : 3812 (Para 1 & 10).
- 11.2.1.4. To control higher rate of carbonation in early ages of concrete both in flyash admixed as well as PPC based concrete, water / binder ratio shall be kept as low as possible, which shall be closely monitored during concrete manufacture. If necessitated due to low water / binder ratio, required workability shall be achieved by use of chloride free chemical admixtures conforming to IS:9103. The compatibility of chemical admixtures and super plasticizers with each set OPC, fly ash and / or PPC received from different sources shall be ensured by trials.
- 11.2.1.5. In environment subjected to aggressive chloride or sulphate attack in particular, use of flyash admixed or PPC based concrete is recommended. In cases, where structural concrete is exposed to excessive magnesium sulphate, flyash substitution / content shall be limited to 18% by weight. Special type of cement with low C3A content may also be alternatively used. Durability criteria like minimum binder content and maximum water / binder ratio also need to be given due consideration in such environment.
- 11.2.1.6. Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot and arid regions, the minimum curing period shall be 14 days or its equivalent.
- 11.2.2. Use of Fly ash Admixed Cement Concrete (FACC) in RCC Structures :- There shall be no bar on use of FACC in RCC structures subject to following additional conditions :-
 - 11.2.2.1. Fly ash shall have its chemical characteristics and physical requirements etc. conforming to IS:3812 (Part-10) and shall be duly certified.
 - 11.2.2.2. To ensure uniform blending of fly ash with cement in conformity with IS:456, a specific facility needs to be created at site with complete computerized automated process control to achieve design quality or with similar facility from Ready Mix concrete (RMC) plants.
 - 11.2.2.3. As per IS:1489 (Part-I), Maximum 35% of OPC by mass is permitted to be substituted with fly ash conforming to IS : 3812 (Part-I) and same is reiterated.

11.2.2.4. Separate storage for dry fly ash shall be provided. Storage bins or silos shall be weather proof and permit a free flow and efficient discharge of flysh. The filter or dust control system provided in the bins or silos shall be of sufficient size to allow delivery of fly ash maintained at specified pressure to prevent undue emission of fly ash dust, which may interfere weighing accuracy.

11.2.3. Use of Fly Ash Blended Cements in Cement Concrete (PPCC) in RCC structures

11.2.3.1. Subject to General Guidelines detailed out as above, PPC manufactured conforming to IS : 1489 (Part-I) shall be treated at par with OPC for manufacture of Design Mix Concrete for structural use in RCC.

11.2.3.2. Till the time, BIS makes it mandatory to print the %age of flyash on each bag of cement, the certificate from the PPC manufacturer indicating the same shall be insisted upon before allowing use of such cements in works.

11.2.3.3. While using PPC for structural concrete work, no further admixing of fly ash shall be permitted.

11.3. FORMWORK FOR EXPOSED CONCRETE SURFACES

11.3.1. Where it is specifically shown on the drawings to have original fair face finish of concrete surface without any rendering of plastering, formwork shall be carried Out by using plywood on steel plates of approved quality.

11.3.2. The forms shall be constructed so as to produce a uniform and consistent texture and pattern on the face of the concrete. The formwork shall be placed so that all horizontals are constructed of lumber and are not paneled and the formwork joints shall be staggered.

11.3.3. To achieve a finish which shall be free of board marks, the formwork shall be faced with plywood or equivalent material in large sheets. The sheets shall be arranged in an approved pattern. Whenever possible, joints between sheets shall be arranged to coincide with architectural feature, sills, window heads or change in direction of surface. All joints between panels shall be vertical or horizontal unless otherwise directed. Suitable joints shall be approved between sheets. The joints shall be arranged and fitted so that no blemish or mark is imparted to the finished surfaces.

11.3.4. Forms for exposed concrete surfaces shall be constructed with grade strips (the underside of which indicate top of pour) at horizontal constructions joints, unless the use of groove strips is specified on the drawings. The reset forms shall be tightened against the concrete so that the forms will not be spread and permit abrupt irregularities or loss of mortar. Supplementary form ties shall be used as necessary to hold the reset forms tight against the concrete.

11.3.5. For fair faced concrete, the position of through bolts will be restricted and generally as indicated on the drawings.

11.3.6. Plywood and steel plates used in the formwork for obtaining exposed surfaces shall be got approved from Engineer-in-Charge on each use.

However no forms will be allowed for reuse if it is doubtful to produce desired texture of exposed concrete.

11.3.7. Cement of only approved shade shall be used preferably of single lot to achieve integrity of texture.

11.4. CLASS OF SURFACE FINISH

11.4.1. For Beams & Slabs :

The finish shall be uniform, dense and smooth. no grout, no grain pattern, no crazing and no major blemishes shall be permitted. Abrupt irregularities not exceeding 3mm and gradual irregularities less than 5mm in 2m length only shall be permitted.

11.4.2. For Columns/Wall/Fins :

The finish shall be uniform and smooth leveling the surface of the compacted concrete shall be done with a screed board with power floating the surface and over that steel trowelling the surface under firm pressure characteristics of finish shall be brush marks < 3mm gradual irregularities less than 10mm in 2m.

11.5. TOLERANCE IN FINISHED CONCRETE

The formwork shall be so made as to produce a finished concrete true to shape, lines, level, plumb and dimensions as shown in the drawings subject to the following tolerance unless otherwise specified in this specification or drawings.

11.5.1. Wall/Column/Fins:

i	Variation from the plumb	$\pm 6\text{mm}$	Upto 3m height
ii	Variation from the plumb of conspicuous liner	$\pm 6\text{mm}$	Upto 6m height
iii	Variation in the size of wall openings	(+)15mm (-) 6mm	
iv	Variation in parapet wall thickness Upto 30cm thickness	$\pm 6\text{mm}$	

Slab, Beam & Girder Forms:

Variation from the level or from the specified grid for beam soffit before removal of shores,

(a) In any 3m $\pm 6\text{mm}$

(b) In any 6m $\pm 10\text{mm}$

All the tolerances mentioned above shall apply to concrete dimensions only, and not to positioning of vertical steel or dowels. The tolerances given above are

specified for local aberration in the finished concrete surface and should not be taken as tolerance for the entire structure taken as whole for the setting and alignment of formwork. Any error, within the above tolerance limits, or any other if noticed in any of the structure after part or portion stripping of forms, shall be corrected in the subsequent work to bring back the structure to its true line, level and alignment.

- 11.6. Ultrasonic pulse velocity method test for RCC as per technical circular No. 18 issued vide CE(CSQ) letter No. G-2/SE(QA)/CSQ/69 dated 12.02.2013 shall be carried out as a routine test to assess the homogeneity and uniformity of concrete. The fulfilling criteria and other conditions shall be as detailed, as per the method stated in the aforesaid circular.

12. SAFETY MEASURES AT CONSTRUCTION SITE

In order to ensure safe construction, following shall be adhered for strict compliance at the site:-

- 12.1. The work site shall be properly barricaded.
- 12.2. Adequate signages indicating 'Work in Progress – Inconvenience caused is Regretted' or Diversion Signs shall be put on the sites conspicuously visible to the public even during night hours. These are extremely essential where works are carried out at public places in use by the public.
- 12.3. The construction malba at site shall be regularly removed on daily basis.
- 12.4. All field officials and the workers must be provided with safety helmets, safety shoes and safety belts.
- 12.5. Proper MS pipe scaffoldings with work – platforms and easy-access ladders shall be provided at site to avoid accidents.
- 12.6. Necessary First-Aid kit shall be available at the site.

The above provisions shall be followed in addition to the provisions of General Condition of Contract.

13. FIELD TESTING INSTRUMENTS (REFER 10 A OF SCHEDULE "F")

Following instruments in sufficient quantity as directed by the Engineer- in-Charge shall be made available by the contractor. It shall be ensured that the instruments always remain in serviceable condition else the same will be replaced.

- 13.1.1. Steel tapes – 3 m.
- 13.1.2. Vernier Calipers.
- 13.1.3. Micrometer screw 25 mm gauge.
- 13.1.4. A good quality plumb bob.
- 13.1.5. Spirit level, minimum 30 cms long with 3 bubbles for horizontal vertical.
- 13.1.6. Wire gauge (circular type) disc.
- 13.1.7. Foot rule.

- 13.1.8. Long nylon thread.
- 13.1.9. Rebound hammer for testing concrete
- 13.1.10. Dynamic penetrometer.
- 13.1.11. Magnifying glass
- 13.1.12. Screw driver 30 cms long
- 13.1.13. Ball pin hammer, 100 gms.
- 13.1.14. Plastic bags for taking samples
- 13.1.15. Moisture meter for timber
- 13.1.16. Earth resistance tests (for Electrical Divisions)
- 13.1.17. Meggar (for Electrical Divisions)

14. SPECIFICATIONS FOR FLY ASH BRICKS

All fly ash bricks as brought to the site shall conform to the strength & durability parameters as prescribed in the tender and CPWD specifications.

~~15. The contractor shall submit 'Method Statement' for the approval soon after the award of work. 'Method Statement' is a statement by which the construction procedures for important activities of construction are stated, checked and approved. Method Statement shall have description of the item with elaborate procedures in steps to implement the same. The specification of the materials involved their testing and acceptance criteria, equipments to be used, precautions to be taken, mode of measurements etc.~~

16. TESTING OF MATERIALS.

- 16.1. The contractor shall arrange carrying out of all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including fee for testing unless specified otherwise. In all cases cost of samples and to & fro carriage shall be borne by the contractor. Contractor shall establish a laboratory at site of work at his own cost. The laboratory shall be equipped with all necessary equipment as per requirement of specification or as per direction of Engineer-in-Charge. A list of laboratory equipments to be maintained by the contractor is enclosed in page 54&55. Establishing the laboratory at site shall not absolve the contractor from fulfilling the criteria of getting the test done in independent approved laboratories as per DG/MAN/308. The decision of the Engineer-in-Charge of allowing any test in the site laboratory shall be final.
- 16.2. Even ISI marked materials may be subjected to quality test at the discretion of the Engineer-in-charge besides testing of other materials as per the specifications described for the item/material. Whenever ISI marked materials are brought to the site of work the contractor shall, if required by the Engineer-in-charge, furnish manufacturer test certificate or test certificate from approved testing laboratory to establish that the material procured by the contractor for incorporation in the work satisfy the provisions if IS codes relevant to the material and/or the work done.

16.3. Sub-standard Material/Work : In case any material/work is found substandard the same shall be rejected by the Engineer-in-Charge and the same shall be removed from the site of work within 48 hour, failing which the same shall be got removed by the Engineer-in-Charge at the risk and cost of the contractor without giving any further notice and time.

16.4. Personal Safety Measures for Labour

Contractor shall provide the following items for safety of workers employed by contractor and associate agencies:

- (i) Protective footwear / helmet and gloves to all workers employed for the work on mixing, cement, lime mortars, concrete etc. and openings in water pipeline/sewer line.
- (ii) Welder's protective eye-shields to workers who are engaged in welding works.
- (iii) Safety helmet and Safety harness/ belt Provide adequate sanitation/safety facilities for construction workers to ensure the health and safety of the workers during construction, with effective provisions for the basic facilities such as sanitation, drinking water and safety equipment or machinery.
- (iv) All the workers should be wearing helmet and shoes all the time on site.
- (v) Masks and gloves should be worn whenever and wherever required.
- (vi) Adequate drinking water facility should be provided at site, adequate number of decentralized latrines and urinals to be provided for construction workers.
- (vii) Full time workers (if any with the approval of Engineer-in-Charge) residing on site should be provided with clean and adequate temporary hutment.
- (viii) First aid facility should also be provided.
- (ix) Overhead lifting of heavy materials should be avoided. Barrow wheel and hand-lift boxes should be used to transport materials onsite.
- (x) Tobacco and cigarette smoking should be prohibited onsite.
- (xi) All dangerous parts of machinery are well guarded and all precautions for working on machinery are taken.
- (xii) Maintain hoists and lifts, lifting machines, chains, ropes and other lifting tackles in good condition. Provide safety net of adequate strength to arrest falling material down below.
- (xiii) Use of durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
- (xiv) Ensure that walking surfaces or boards at height are of sound construction and are provided with safety rails and belts. Provide protective equipments such as helmets.
- (xv) Provide measure to prevent fire. Fire extinguisher and buckets of sand to be provided in fire-prone area and elsewhere.
- (xvi) Provide sufficient and suitable light for working during night.

- (xvii) Ensure that measures to protect workers from materials of construction, transportation, storage and other dangers and health hazards are taken
- (xviii) Ensure that the construction firm/division/company have sound safety policies.
- (xix) Comply with the safety procedure, norms and guidelines (as applicable) as outlined in NBC 2016 (BIS 2005c).
- (xx) Adopt additional best practices and prescribed norms as in NBC 2016 (BIS2005).

16.5 Identify roads on-site that would be used for vehicular traffic. Upgrade vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral type that make up the surface base. Add surface gravel to reduce source of dust emission. Limit amount of fine particles (smaller than 0.075mm) to 10 -20%. Limit vehicular speed on site 10km/h. Nothing extra will be payable for this.

16.6 All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust/particulate emissions.

16.7 Spills of dirt or dusty materials shall be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean – up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained/cleaned up immediately before they can infiltrate into the soil/ground or runoff in nearby areas.

16.8 Ensure that water spraying is carried out by wetting the surface by spraying water on:

- (i) Any dusty material.
- (ii) Areas where demolition work is carried out.
- (iii) Any unpaved main-haul road and.
- (iv) Areas where excavation or earth moving activities are to be carried out.

16.9 The contractor shall ensure the following:

- (i) Cover and enclose the site by providing dust screen, sheeting or netting to scaffold along the perimeter of a building.
- (ii) Covering stockpiles of dusty material with impervious sheeting.
- (iii) Covering dusty load on vehicles by impervious sheeting before they leave the site.

- (iv) Transferring, handling/storing dry loose materials like bulk cement and dry pulverized fly ash inside a totally enclosed system.
- (v) Spills of dirt or dusty materials shall be cleaned up promptly so that the spilled material does not become a source of fugitive dust and also to prevent seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained / cleaned up immediately before they can infiltrate into the soil/ground or runoff in nearby areas.
- (vi) Clear vegetation only from areas where work will start right away.

16.10 (A) Special conditions for works:

1. The contractor shall ensure that the following provisions are complied with during the construction besides GCC provisions related to a) CPWD safety code b) Model rules and c) CPWD contractors labour regulations.
 - 1.1. Reduction in air pollution during construction by taking necessary measures. For example, Covering stock piles, covering bricks and loads of dusty materials, carry out wheel washing of vehicles entering/exiting the site, sprinkle water on roads with loose dust, cordoning of material stocking area and construction work area etc.
 - 1.2. Efficient water use during construction.
 - 1.3. Efficient reduction in waste during construction by segregating hazardous and inert waste and such segregated waste shall be safely disposed off.
 - 1.4. Smoking is strictly prohibited on site.
 - 1.5. All the construction materials are properly stacked without any spillage and wastage.
2. No extra payment shall be made for all the operations described above such as GI sheet barricading, covering stock piles, covering bricks and loads of dusty materials, carrying-out wheel washing of vehicles entering/exiting the site, sprinkling water on roads with loose dust, cordoning of materials stacking area and construction work area etc.,. It may be noted that the quoted amount covers the cost of these operations. In case the special conditions for GRIHA compliances is not strictly followed during the execution of the work the fine(**Non refundable**) for non -performance of each corresponding activity specified as below shall be levied per day of failure.

Sl. No.	Operations	Fine per day
1.	Covering stock piles	Rs.100 / day
2.	Covering bricks and loads of dusty materials.	Rs.100 / day

3.	Cordoning of material stocking area and construction work area.	Rs.100 / day
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3. If the non compliance of \ norms are observed for more than a week it shall be construed that the agreement conditions are not performed by the Agency and action shall be taken as deemed fit by the Engineer-in-Charge.

16.11 Adopt measures to prevent air pollution in the vicinity of the site due to construction activities. There is no standard reference for this. The best practices should be followed (as adopted from international best practice documents and codes).

16.12 18.21 The contractor shall provide experienced personnel with suitable training to ensure that these methods are implemented. Prior to the commencement of any work, the method of working, plant equipment and air pollution control system to be used on –site should be made available for the inspection and approval of the Engineer –in-Charge to ensure that these are suitable for the project.

16.13 Employ measures to segregate the waste on-site into inert, chemical or hazardous wastes. Recycle the unused chemical/hazardous wastes such as oil, paint, batteries and asbestos. The inert waste is to be disposed off to Municipal Corporation/local bodies dump yard and landfill sites.

16.14 To preserve the existing landscape and protect it from degradation during the process of construction. Select proper timing for construction activity to minimize the disturbance such as soil pollution due to spilling of the construction material and its mixing with rainwater. The construction management plan including soil erosion control management plan shall be prepared accordingly for each month. The application of erosion control measures includes construction of gravel pits and tyre washing bays of approved size and specification for all vehicular site entry/exits, protection of slopes greater than 10%. Sedimentation Collection System and run-off diversion systems shall be in place before the commencement of construction activity. Preserve and protect the existing vegetation by not-disturbing or damaging to specified site areas during construction.

16.15 The Contractor should follow the construction plan as proposed by the Engineer-in-charge / landscape consultant to minimize the site disturbance such as soil pollution due to spilling. Use staging and spill prevention and control plan to restrict the spilling of the contaminating material on site.

16.16 Spill prevention and control plans should clearly state measures to stop the source of the spill. Measures to contain the spill and measures to dispose the contaminated material and hazardous wastes. It should also state the designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners and petroleum products.

16.17 The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.

16.18 The contractor shall ensure that no construction leaches (Ex: cement slurry) is allowed to percolate into the ground. Adequate precautions are to be taken to safeguard against this including reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant – laden water directly to the treatment device or facility (municipal sewer line).

16.19 All lighting installed by the contractor around the site and at the labour quarters during construction shall be energy efficient bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed otherwise.

16.20 All paints, adhesives and sealants should comply with the VOC limits prescribed by

GRIHA, as follows:

Table 1- VOC limits for paints, adhesives and sealants

Paints	VOC Limit (g/l)	Adhesives	VOC Limit (g/l)
Non-flat paints	150	Wood flooring Adhesive	100
Flat (Mat) paints	50	Tile Adhesive	65
Anti-corrosive/anti- rust Paints	250	Indoor Carpet Adhesive	50
Varnish	350	Wood	30
Lacquer	550	Stains Water proofing sealer	250

- 16.21 All the building materials and systems used on site must be as per the specifications and approved makes by the Engineer-In-Charge.
- 16.22 Water saving measures as suggested by the consultants need to be followed on site.
- 16.23 Any other site management measures suggested by the Engineer-in-charge / green building consultant shall be followed on site.
- 16.24 **Nothing extra shall be payable for above provisions unless otherwise specified in**

Schedule of Quantity

17 CONDITIONS FOR READY MIX CONCRETE :-

- 17.1 The contractor can use concrete from RMC plants also with prior approval of the Engineer in charge, instead of preparing the same in central batching plant at site within agreement item of Batch Mix Plant without any extra cost, looking to expedite the progress and need of work. However for procuring RMC from approved plant the contractor shall follow the following conditions. Nothing extra shall be payable to the contractor for procuring RMC from the external plant.
- 17.2 For procurement of ready mix concrete from approved RMC plants, the contractor shall, within a 15 days of award of the work, submit list of at least three RMC plant companies of repute along with details of transit mixer and pumps etc. to be deployed indicating name of owner / company, its location capacity, technical establishment, past experience and text of MOU proposed to be entered between purchaser (the contractor) and supplier (RMC Plant). The Engineer – in – Charge shall give approval in writing (subject to draw of MOU). The contractor shall draw the MOU with approved RMC plant owner / company and submit 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.
- 17.3 The Engineer-in-charge will reserve right to inspect at any such stage and reject the concrete if he is not satisfied about quality of product. The contractor should therefore draw MOU / agreement with RMC owner / company very carefully, keeping all terms and conditions / specifications forming a part of this tender document. Including the following controls.
 - 17.1.1 The Engineer-in-charge reserves the right to exercise control over the ingredients, water and admixtures purchased, stored and to be used in the concrete including conducting of tests for checking quality of Materials, recordings of test results and declaring the Materials fit or unfit for use in production of mix.

17.1.2 Calibration checks of the RMC.

17.1.3 Weight and quantity check on the ingredients, water and admixtures added for batch mixing.

17.1.4 Time of mixing of concrete.

17.1.5 Testing of fresh concrete, recordings of results and declaring the mix fit or unfit for use. This will include continuous control on the workability during production and taking corrective action.

For exercising such control, the Engineer-in-charge (if required) shall periodically depute his authorized representative at the RMC plant. It shall be responsibility of the contractor to ensure that all-necessary requirement manpower & facilities are made available to Engineer-in-charge and / or his authorized representative at RMC plant.

17.2 The ready mix concrete should be produced in RMC plant using fully automatic batching plant having capacity to produce 30 cum/hr. The plant should have computerized control and shall give print out of all the ingredients.

17.3 All required relevant records of RMC shall be made available to the Engineer-in-charge or his authorized representative. Engineer-in-charge shall, as required specify guidelines & additional procedures for quality control & other parameters in respect of materials and production & transportation of concrete mix, which shall be binding on the contractor & the RMC plant.

17.4 43 grade OPC/ PPC as per schedule of the contract (conforming to relevant IS Codes) of brand / make / source as approved by Engineer-in-charge shall only be used for production of concrete.

17.5 The RMC produced concrete be accepted by Engineer-in-Charge at site after receipt of the same after fulfilling all the requirements of mix mentioned in the tender documents.

17.6 The item of design mix cement concrete shall be inclusive of all the ingredients including admixtures if required, labour, machinery, T&P etc. required for a design mix concrete of required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of change in quantities of concrete ingredients like cement and aggregates and admixtures etc. as per the approved mix design.

17.7 Ready mix concrete shall be arranged in quality as required at site of work by transportation in a transit mixer. [The general conditions of transit mixer and other requirement shall conform to IS:5892.] Ready mix concrete shall be supplied as per the pre-agreed schedule approved by Engineer-in-charge.

17.8 All other operations in concreting work like Mixing, Slump, transportation, laying/placing of concrete, compaction, curing etc. not mentioned in this particular specification for Design Mix Concrete shall be as per IS : 456-2000 or amended thereafter.

17.9 For design mix concrete of RCC other than those specified above, the contractor shall use the Design mix concrete produced by a central batching and mixing

plant at his own cost. The contractor, if he so desires, can arrange the design mix concrete also from Ready mix concrete producer after obtaining written approval of the Engineer-in-charge. Nothing extra whatsoever shall be payable on this account.

17.10 Ready mix concrete shall be arranged in quantity as required at site of work. The ready mix concrete shall be supplied as per the pre-agreed schedule approved by Engineer-in-charge. Nothing extra shall be payable on this account.

17.11 The item of design mix cement concrete (produced at site as well as arranged from RMC producer) shall be inclusive of all the ingredients including admixtures if required, labour, machinery, transportation etc. (except reinforcement and shuttering which will be measured & paid as per provision of contract) required for a design mix concrete of required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of changes in quantities of concrete ingredients like cement and aggregates and admixtures etc. as per approved mix design except for quantity of extra cement payable as per schedule of quantity. Other operations in concreting work like Mixing, Slump, transportation, laying / placing of concrete, compaction, curing etc. not mentioned in this particular specification for Design Mix of Concrete shall be as per IS : 456-2000.

18 WATER PROOFING TREATMENT

18.1 GENERAL :-

All the water proofing treatment shall be got executed through one of the approved agencies as per the list of approved agencies furnished with tender schedule or as directed by the Engineer-in-charge.

The contractor shall furnish the following particulars immediately after the issue of letter of acceptance by the Department.

18.1.1 The name of the specialized firm.

18.1.2 The trade names of the product, which would be used.

18.1.3 List of works where the treatment has been used.

18.1.4 Quantity of chlorides and sulphides used in the product.

18.2 INTEGRAL CEMENT BASED WATER PROOFING TREATMENT

18.2.1 Treatment for roof surface:

The brick bats shall be from well-burnt bricks. The proprietary waterproofing compound shall bear I.S.I. mark and shall conform to I.S. 2645. Before execution of work, water proofing compound shall be procured and brought to site from which random sample would be got tested for its conformance to I.S. Code in an approved laboratory. The proprietary waterproofing compound shall be added at the rate recommended by the specialist firms.

The finished surface after water proofing treatment shall have minimum slope of 1 in 80. At no point, the thickness of water proofing treatment shall be less than 65mm.

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.

The surface where the waterproofing is to be done shall be prepared by thoroughly cleaning with wire brushes. All loose scales , laitance shall be removed and dusted off and washed clean with water. The surface shall then be treated with neat cement slurry @ 2.75 kg per sqm, admixed with proprietary waterproofing compound, in proportion as recommended by the manufacturer, to penetrate into crevices and fill up all the pores in the surface. This cement slurry shall be applied at the junction of parapet and terrace slab including the vertical face of the parapet upto 300 mm.

After the slurry coat is applied, a 20 mm thick layer of cement mortar not leaner than 1:5 (1 cement: 5 coarse sand) admixed with proprietary water proofing compound conforming to IS: 2645 shall be laid. Then a layer of well burnt brick bats shall be laid in cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1 cement: 5 coarse sand) admixed with proprietary water proofing compound. This layer shall be laid 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. After curing, the surface shall be applied with a coat of cement slurry admixed with proprietary water proofing compound.

Joints of brick bat layer shall then 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 finally top finished with average 20 mm thick layer of joint less cement mortar of same mix and finished smooth with cement slurry admixed with proprietary water proofing compound including laying glass fibre cloth **145 gm / sqm** of approved quality in top layer of plaster. The finished surface shall have marking of 300 x 300mm false squares to give the appearance of tiles. Where the water proofing treatment is to be finished with china mosaic tile flooring , the top surface of the water proofing treatment shall be finished rough and false squares shall not be made.

Curing and final test of water proofing treatment shall be done for a minimum period of two weeks by ponding water. The Contractor at his own cost shall arrange the water for this purpose. Nothing extra shall be payable on this account.

18.2.2 MEASUREMENTS: The measurements shall be taken along the finished surface of treatment including the rounded and tapered 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 for areas up to 0.40 sq.m. nor anything extra shall be payable for forming such openings. For similar areas exceeding 0.40 sqm. Deductions shall be made in measurements for full openings and nothing extra shall be paid for making such openings.

18.2.3 RATES: The rate shall include the cost of all labour and materials involved in all the operations described above and as per the item description.

18.3 SUNKEN FLOOR SLAB, ITS TREATMENT ETC.

18.3.1 Brickbat aggregate shall be from well-burnt bricks. The proprietary waterproofing compound and the quantity to be used shall be as per above Para. The surface shall be thoroughly cleaned with wire brushes. All loose scales, laitance shall be removed and dusted off. The surface bottom as well sides shall be applied with a coat of cement slurry admixed with proprietary water proofing compound to penetrate into crevices and fill up all the pores in the surface.

After the slurry coat is laid, 20 mm thick layer of cement mortar not leaner than 1:5 (1 cement: 5 coarse sand) admixed with proprietary water proofing compound conforming to IS: 2645 shall be laid. Then a layer of well burnt brick bats of about 40mm size shall be laid in cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1cement: 5 coarse sand) admixed with proprietary water proofing compound, the mortar being filled to half the depth of the brick bat layer. The brick bat layer shall be rounded off at junction with the beam / wall etc., and tapered towards top to a height of 150 mm along beam / walls etc. Curing of this layer shall be done for two days. After curing, the surface shall be applied with a coat of neat cement slurry admixed with proprietary water proofing compound.

Joints of brick bat shall be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:4 (1cement: 4 coarse sand) admixed with proprietary water proofing compound and top finished with average 20mm thick layer of same mortar. This layer of mortar shall be continued to the sides of beam / wall of the sunk etc. The height upto that this treatment is to be extended on the sides shall be as directed by the Engineer-in-Charge. The surface shall be finished smooth with cement slurry admixed with proprietary water proofing compound. No chequers or false squares shall be marked on the finished surface.

While the water proofing treatment is done, it shall be ensured that the outlet pipes are properly fixed and the gaps between the wall and pipes are properly filled with brick / stone aggregate and cement mortar admixed with proprietary water proofing compound and grouted with cement slurry admixed with proprietary water proofing compound. Waterproof treatment shall be cured for a minimum period of two weeks.

18.3.2 Measurements: Measurements for the floor treatment shall be taken on the plan area of floor treated. Nothing extra shall be paid for rounding off at junctions and taking the treatment along the sides of beams and walls for about 150 mm.

18.3.3 Rates: The rate shall include the cost of all labour and materials involved in all the operations described above.

19 GUARANTEE FOR THE WORK OF REPAIRS TO RCC MEMBERS

Guarantee for the work of repairs to RCC members: Ten years guarantee in prescribed proforma attached shall be given by the contractor for the repairs to RCC work using render, non shrink plaster, anti corrosive coat to reinforcement and epoxy coat to concrete work. In addition 10% (ten percent) of the cost of these items of repairs to RCC members shall be retained as guarantee to watch the performance of the work executed. However, half of this amount (withheld) would be released after five years from the date of completion of the work, if the performance of the retrofitting works is satisfactory. The remaining withheld amount shall be released after completion of ten years from the date of completion of work, if the performance of the retrofitting work is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days of issuing of notice by the Engineer-in-Charge and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor and recovery shall be effected from the amount retained towards guarantee. In any case, the contractor and the specialist agency, during the guarantee period, shall inspect and examine the treatment once in every year and make good any defect observed and confirm the same in writing. The security deposit can be released in full, if bank guarantee of equivalent amount, valid for the duration of guarantee period, is produced and deposited with the department.

20 GUARANTEE FOR POST ANTI TERMITE TREATMENT:

Five years guarantee in prescribed proforma attached shall be given by the contractor for the Antitermite treatment. In addition 10% (ten percent) of the cost of these items of Anti termite under this sub head shall be retained as guarantee to watch the performance of the work executed. However, half of this amount (withheld) would be released after 30 months from the date of completion of the work, if the performance of the waterproofing works is satisfactory. The remaining withheld amount shall be released after completion of 60 months from the date of completion of work, if the performance of the waterproofing work is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days of issuing of notice by the Engineer-in-Charge and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor and recovery shall be effected from the amount retained towards guarantee. In any case, the contractor and the specialist agency, during the guarantee period, shall inspect and examine the treatment once in every year and make good any defect observed and confirm the same in writing. The withheld amount as guarantee can be released in full, if bank guarantee of equivalent amount, valid for the duration of guarantee period, is produced and deposited with the Department.

16. APPENDIX I: GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF RETRO FITTING/ REPAIRS FOR RCC WORKS

The Agreement made this.....day ofTwo thousand and betweenson ofof hereinafter called the Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called Government of the other part).

WHEREAS THIS agreement is supplementary to a contract (hereinafter called the contract) datedand made between the GUARANTOR OF THE ONE part and the Government of the other part, whereby the Contractor, inter alia, undertook to render the buildings and structures in the said contract recited completely. AND WHEREAS GUARANTOR agreed to give a guarantee to the effect that the said the part of structures will remain intact for ten years from the date of completion of repair / retrofitting to RCC members.

NOW THE GUARANTOR hereby guarantees that repairs/ retrofitting given by him will render the structures completely leak-proof and the minimum life of such retrofitting/ repair to RCC members works shall be ten years to be reckoned from the date after the maintenance period prescribed in the contract.

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

(a) The decision of the Engineer-in-charge with regard to damages shall be final. During this period of guarantee the guarantor shall make good all defects and in case of any defect being found render the building to the satisfaction of the Engineer-in-charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the GUARANTOR 'S cost and risk. The decision of the Engineer-in-charge as to the cost, payable by the guarantor shall be final and binding.

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

IN WITNESS WHEREOF these present have been executed by the Obligor.....and byand for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

SIGNED, SEALED and delivered by OBLIGOR in the presence of –

1.

2.

SIGNED for and on behalf of THE PRESIDENT OF INDIA by.....in the presence of-

**17. APPENDIX II: GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL
OF DEFECT AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS
(SPECIMEN)**

(Ref. para 3.7 of Particular Specifications and Special conditions)

The Agreement made thisday oftwo thousand and between
.....son ofof(hereinafter called the **Guarantor** of the one part)
and the PRESIDENT OF INDIA (hereinafter called Government of the other part).

WHEREAS this agreement is supplementary to a contract (hereinafter called the
Contract) dated and made between the **GUARANTOR** of the one part and the
Government of the other part, whereby the Contractor, inter alia, undertook to render
the buildings and structures in the said contract recited completely water and leak –
proof.

AND WHEREAS **GUARANTOR** agreed to give a guarantee to the effect that the said
structures will remain water and leak-proof for five years from the date of giving of
water proofing treatment.

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

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

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

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

That if **GUARANTOR** fails to execute the water proofing or commits breach thereunder then the **GUARANTOR** will indemnify the Principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the **GUARANTOR** in performance and observance of this supplementary agreement. As to the amount of loss and / or damage and / or cost incurred by the Government the decision of the Engineer – in – Charge will be final and binding on the parties.

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

Signed, sealed and delivered by OBLIGOR in the presence of –

1.
2.

Signed for and on behalf of THE PRESIDENT OF INDIA byin the presence of –

1.
2.

18. APPENDIX III GUARANTEE TO BE EXECUTED BY THE CONTRACTORS FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF ALUMINIUM/UPVC DOORS, WINDOWS, VENTILATORS WORK.

The agreement made this.....day of Two Thousand betweenSon of (Hereinafter called the GUARANTOR of the one part) and the President of India (hereinafter called the Government of the other part).

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

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable, leak proof and guaranteed against faulty material and workmanship, defective anodizing, colouring and finishing **two years for Aluminium Doors, windows and ventilators, & ten years for UPVC Doors, windows and ventilators** from the date after the maintenance period prescribed in the contract.

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

The decision of the Engineer in Charge with regard to cause of defect shall be final.

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

That if the guarantor fails to make good all the defects and commits breach thereunder then the guarantor will indemnify the principal and his successors against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and

observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the Government the decision of the Engineer in Charge will be final and binding on the parties.

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

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

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

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY in presence of

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

19. APPENDIX IV GUARANTEE BOND FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF PAINTING WORKS.

This Agreement made on between **M/s.** (hereinafter called the GUARANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the GOVERNMENT of the other part).

WHEREAS THIS agreement is supplementary to contract (herein after called the contract) date and made between the GUARANTOR OF THE ONE PART and the GOVERNMENT OF THE OTHER PART, whereby the contractor inter-alia, undertook to render the exterior painting on the buildings and structures in the said contract recited completely free from defects of any type like peeling off, unevenness in shade, fading of shade, algae / fungus development etc.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said painting work will remain without any defect for four years from the date of applying of acrylic exterior paint.

NOW THE GUARANTOR hereby guarantees that exterior acrylic/ weather proof paint given by him will render the structures completely without any defect and the minimum life of such paint shall be **five years** to be reckoned from the date after the maintenance period prescribed in the contract.

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

That if the GUARANTOR fails to executed rectification of defects / or restoring of quality OR commits breach thereunder then the GUARANTOR will indemnify the principal and his successors against all loss, damages, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and / or damage and / or cost incurred by the GOVERNMENT the decision of the Engineer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligator___AND BY The Executive Engineer (Puducherry),CPWD, Puducherry and for and on behalf of the *PRESIDENT OF INDIA* on the day, month and year first above written.

SIGNED, SEALED AND delivered by OBLIGOR in the presence of –

1.
2.
SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY
..... in the presence of –

1.
2.

20. TABLE-1: LIST OF EQUIPMENTS FOR FIELD TESTING LABORATORY

Equipment for conducting necessary tests as per applicable CPWD Specifications shall be provided and installed at site in the well-furnished site laboratory by the contractor at his own cost. The following laboratory equipments should be in general or as and when required be set up at site laboratory.

The list is only indicative and not exhaustive. The Bidder may be required to deploy more equipment as per requirement of work. Nothing extra shall be payable.

In case any equipment is not required in the work as per decision of Engineer in charge, the same shall be considered as deleted from list.

The decision of Engineer in charge shall be final and binding on all issues related to it.

Sl.No.	Equipment	Numbers (Minimum)
1	Balances: i) 7 kg to 10 kg capacity, semi-self- indicating type - accuracy 10 gram. ii) 500 Gram capacity, semi-self-indicating type - accuracy 1 gram iii) Chemical balance, 100 gm capacity - accuracy - 0.1 gram iv) Pan balance - 5 kg capacity - accuracy 10 grams v) Platform scale - 300 kg capacity	1 No. each
2	Ovens: Electrically operated Thermostatically controlled upto 200 degree C for determination of loss on heating of bitumen.	1 No.
3	Sieves as per IS 460 - 1962 i) IS sieves - 450mm internal dia of sizes (100mm, 80mm, 63mm, 50mm, 40mm, 25mm, 20mm, 12.5mm, 10mm, 6.3mm, 4.75mm, 1.75mm complete with lid and pan) ii) IS Sieves - 200mm internal dia (brass frame) consisting of 2.36mm, 1.18mm, 600 microns, 425 microns, 300 microns, 212 microns & 150 microns, 90 microns, 75 microns with lid and pan)	1 No. each 1 No. each

Sl.No.	Equipment	Numbers (Minimum)
4	Sieve shaker capable of 200mm and 300mm dia sieves, manually operated with timing switch assembly	1 No.
5	Equipment for slump test-Slump cone, steel plate, tamping rod, steel scale, scoop	3 Nos.
6	Dia gauges 25mm travel - 0.01 mm / division least count - 2 Nos.	1 No.
7	100 MT compression testing machine, electrical cum manually operated	1 No.
8	Load frame - 5 tonnes capacity, electrically operated with speed control	1 No.
9	Aggregate impact test apparatus as per IS 2386 - Part IV - 1963	1 No.
10	Compaction apparatus (Proctor) as per IS 2720 - Part VII - 1974	1 No.
11	Modified ASHO compaction apparatus as per IS 2720 - Part- III - 1974	1 No.
12	Sand pouring cylinder with control funnel and tube complete as per IS 2720-Part XXVIII-1974	1 No.
13	Sampling tins with rods 100mm dia × 50mm ht., 1/2kg capacity, and miscellaneous items like moisture tins etc.	1 No.
14	Constant temperature bath for accommodating bitumen test specimen, electrically operated and thermostatically controlled	1 No.
15	Penetrometer with automatic time controller and with adjustable weight accessories and needles as per IS 1203- 1958	1 No.
16	Oxhlet extraction apparatus complete with extraction thimbles etc	1 No.
17	Laboratory mixer, about 0.02 cu-meter capacity, electrically operated with heating jacket	1 No.
18	Hubbard field stability test apparatus complete	1 No.
19	Marshall compaction apparatus as per ASTM 1559-62T, and complete with electrically operated leading unit, compaction pedestal bearing head assembly, dial micrometer, bracket for flow measurement, load transfer bar, specimen mould (4 inch. dia) with base plate, columns, mould (4 inch, dia) with base plate, collars, specimen extracted. Compaction hammer, 4.53 kg (10lb)/457 mm (18inch) fall.	1 No.

Sl.No.	Equipment	Numbers (Minimum)
20	Distant reading thermometers	1 No.
21	Graduated cylinder 1000 ml. capacity	3 Nos.
22	Enamel trays (for efflorescence test for bricks) i) 300mm x 250mm x 40mm ii) Circular plate of 250mm dia	2 4
23	Pumps and pressure gauges for hydraulic testing of pipes	1
24	Cube moulds size 70mm x 70mm x 70mm	6
25	Cube moulds size 150mm x 150mm x 150mm	36
26	Spatula 100mm & 200mm with long blade wooden handle	1 each
27	Vernier callipers 12" & 6" sizes	1 each
28	Digital micrometer least count 0.01 mm	1
29	Digital paint thickness meter for steel 500 micron range	1
30	Digital wood moisture meter	1
31	Steel tapes 3 m, 5 m	5 each
32	Micrometer screw 25 mm gauge	1
33	Rebound hammer for testing concrete	2

21. TABLE-2 FIELD TESTING INSTRUMENTS

All the tools & plants and machinery mentioned below are to be deployed as and when required or as directed by Engineer in charge. The below list is only indicative and not exhaustive. The Bidder may be required to deploy more machinery, tools & plants as per required of work. Nothing extra shall be payable.

In case any equipment is not required in the work as per decision of Engineer in charge, the same shall be considered as deleted from list.

The decision of Engineer in charge shall be final and binding on all issues related to it.

Sl. No.	Equipment	Numbers (Minimum)
1	Tower Crane upto 40m boom length and of required capacity	-
2	Hoist Lift	-
3	Excavator cum loader (JCB 3D model or equivalent)	1
4	Needle Vibrator	4
5	Plate Vibrators	2
6	Truck/ tipper/ dumper/ Trailer	4 Nos.
7	Reinforcement bending machine	1
8	Reinforcement cutting machine	1
9	Power driven earth rammer (Soil compactor)	-
10	Total station	1
11	Auto level & staff	1
12	Welding machine 400 Ampere	1
13	Screener for coarse sand and fine sand	3
14	Centrifugal mono block water pump minimum capacity 2 HP	2
15	Hopper Mixers for mixing of mortar	-
16	Mobile Tower Crane with 20M Boom and 5 MT Capacity	-
17	Motor Grader	1 Nos.
18	Truck mounted Road water sprinkler	1 Nos.

Sl. No.	Equipment	Numbers (Minimum)
19	Centring and Shuttering	300 Sqm.
20	Power driven earth rammer	2 Nos.
21	Transit mixer	-
22	Concrete Mixer	-
23	Power driven Vibratory roller of 12 MT capacity	1 No.
24	Tandem Wheel Vibratory Roller	1 No.
25	Tractor with water tanker minimum 4000 liter capacity	2 Nos.
26	Water pumps	2 Nos.
27	DG Set 100 KVA	1 No.
28	Sensor operated Slipform Paver Machine of minimum 4 m width (For single lane CC roads)	1 No.
29	Air Compressor	1 No.
30	Computer controlled fully automatic batch mix plant of capacity not less than 20 Cum/ Hour (CC)	-
31	Mechanical paver	1 No.
32	Any other machinery required for completion of the work as per decision of Engineer-in-charge	As per Actual requirement

22. SPECIAL CONDITIONS FOR WORKS IN JIPMER

1. The contractor shall have registration with Employee's Provident Fund Commissioner and Employee's State Insurance Corporation for safeguarding interest of his workmen. He shall obtain all other necessary approvals from statutory bodies as per law in force.
2. Chases, holes & drilling works etc. shall be done using power operated tools.
3. The contractor shall not carry out any work in any building without permission of Engineer-in-charge or his authorized representatives.
4. The contractor shall have to adhere to this program failing which he shall be wholly responsible for any inconvenience caused to JIPMER.
5. No claim for idle labour on any account shall be entertained.
6. The quarters / flats and portions of quarters / flats where the work is to be executed on any day shall be got approved from the representative of the Engineer-in-charge at the site of work. No work shall be carried out in any quarters/flats without the approval of the representative of the Engineer-in-charge.
7. Any work carried out without the approval of the representative of the Engineer-in-charge at the site of work shall be rejected and shall not be measured and paid for.
8. The manufacturing date and batch No. will be inscribed or printed on packs/containers by manufacturers are only acceptable for all the materials. Fresh material shall be brought to site as far as possible and **materials after the expiry date** will be rejected.
9. The paints/other materials shall be issued by the Junior Engineer / Assistant Engineer to the contractors after breaking the seal of the containers / packing and quantity to be issued shall be as per the daily requirement at the site. After days use balance quantity of paints etc., if any left, will be returned by the contractor to the Department. After use, the empty container shall have to be returned to the Department and shall be preserved by JE In-charge and will not be disposed off till the finalization of the work.
10. The site for the collection and stacking of the material shall be got approved from the Engineer-in-charge.
11. The theoretical consumption of materials like, Satna lime, distemper, paint, water proof cement paint etc. shall be computed, as per the consumption coefficient attached separately. In case of variation between the actual and the theoretical calculations action shall be taken as follows. In case the materials used are less than theoretical requirements the cost for the materials used less shall be recovered from the contractor at the basic rate as given in D.S.R. 2023/ market rate for items not available in DSR. plus carriage plus 1% W.C. plus

15% contractor profit and over heads plus contractors enhancement / abatement as per the clause 12 of the Agreement. For all excess use of materials over the theoretical consumption no extra payment shall be made to the contractor.

12. All doors, windows, floors, furniture, Electrical and other fittings shall be cleaned from all splashes, dust, dirt and mortars etc. The rate for the white washing/colour washing / distempering / painting etc. includes the cost of removal splashes and paint marks. In the event of failure on the part of contractor to remove the splashes and the paint mark the recoveries will be made at the following rates for each type of quarter as below:

S. No.	Building Details	For remaining instances of splashes/ paint on internal or external surfaces
1	Type I / H-Type / Hostel or any other place not mentioned explicitly	Rs.500/- each
2	Type II / G-Type	Rs.600/- each
3	Type III / F-Type / Old MSR Qtr	Rs.700/- each
4	Type IV/ E-type	Rs.800/- each
5	Type V A/B & D II	Rs.900/- each
6	C II/ Hospital / Academic / Office Building	Rs.1000/- each

13. **Electricity shall be arranged by the contractor at his own cost.**
14. The sample of all the items shall have to be got approved by the contractor from the Engineer-in-charge before the supply commences and shall be without prejudiced to the right of the Engineer-in-Charge to get random samples tested out of the actual lot received.
15. The Engineer-in-Charge will be at liberty to take respective sample(s) of each item of Schedule of Quantity in any approved laboratory as decided by him. The sample for testing will be provided by the contractor. All expenditure required to be incurred for taking sample, conveyance, packing and testing charges etc. will be borne by the contractor himself. In case any sample particular lot fails in testing, the contractor will be bound to replace the entire lot with fresh material of prescribed specification and the rejected lot will be returned to the contractor only after fresh lot is supplied. Testing charges in respect of failed sample will be borne by the contractor himself.
16. Rejected materials will have to be removed by the contractor at his own cost immediately of the instructions of doing so.

17. In case of any dispute regarding rejection of quality of materials, the decision of the Engineer-in-Charge will be final and binding upon the contractor.
18. Royalty, octroi, terminal tax etc. at prevalent rates shall have to be paid by the contractor himself and the rates quoted by him shall include these duties and nothing extra on this account shall be payable.
19. The work shall be carried out as per **CPWD specifications for works-2019 Vol. I & II** with up to date correction slips unless otherwise specified in the nomenclature of individual item or in the specifications and special conditions, where specifications are silent, the decision of Engineer-in-Charge shall be final and binding on contractors.
20. The rates for different items of work shall apply for all heights and depths, leads and lifts unless otherwise specified in the agreement or specifications applicable to the agreement.
21. **Any damage done by the contractor to any existing work during the course of execution of the work shall be made good by him at his own cost. If the same is not done even after giving notice to the contractor in three days, the work to make good shall be done by the department at the risk and cost of the department. The contractor shall have no claim for the work so carried out by the department.**
22. Articles manufactured by the reputed firms and approved by Engineer-in-Charge shall only be used. Only articles classified, as 'first quality' by the manufacturer shall be used unless otherwise specified. In case articles bearing ISI certification are not available in the market, quality of samples brought by the contractor shall be judged by standards laid down in the relevant CPWD specifications. For the items not covered by CPWD specifications relevant BIS standards shall apply. The sample of materials to be brought to site for use in work shall be got approved from the Engineer-in-Charge before actual execution of work.
23. The quantities of each item shall not be exceeded beyond the agreement quantities without prior permission of Engineer-in-Charge.
24. Statutory recoveries on account of GST, Income Tax, Surcharge and Construction Worker's Welfare Cess as applicable from time to time shall be made from the gross amount from Running A/c Bill and Final Bill of the contractor.
25. The contractor shall make his own arrangement for getting the permission to ply the trucks from the traffic police/JIPMER.
26. No payment shall be made to the contractor for any damage caused by rain, snow fall, floods or any other natural causes whatsoever during the execution of work. The damage caused to work shall have to be made good by the contractor at his own cost and no claim on this account shall be entertained.

27. Other agencies may also simultaneously be executing the work of electrification, Horticulture or external services and other building works for the same building along with this work. The contractor shall afford necessary facilities for the same and no claim in the matter shall be entertained. The contractor shall especially co-ordinate with the other agency carrying out his work.
28. Restrictions may be imposed by the security staff etc. on the working and or movement of labour and materials, etc, the contractor shall be bound to follow all such restrictions / instructions and nothing shall be payable on this account.
29. The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrance shall be caused to traffic during the execution of the work by storing materials on the road.
30. The contractor shall be fully responsible for the safe custody of the material issued or brought by him to site for doing the work.
31. Testing of materials: -
 - a. In case there is any discrepancy in the frequency of testing as given in the list of mandatory test and that in the individual sub-head of work as per the **CPWD specifications for works-2019 Vol.-I & II** with up to date correction slips, the higher of the two frequencies shall be followed and nothing extra shall be payable to the contractor on this account.
32. Samples of all fittings and fixture to be provided shall be got approved from the Engineer-in-charge before use in the work.
33. The rate for all items of work, shall unless otherwise clearly specified include cost of all labour, material and other inputs involved in the execution of the items.
34. The contractor will not have any claim in case of any delay by the Engineer-in-Charge in removal of trees or shifting, removing of telegraph, telephone or electric lines (overhead or underground), water and sewer lines and other structure etc., if any which may come in the way of the work. However, suitable extension of time can be granted to cover such delay.
35. The malba /garbage generated at site or anywhere in the campus due to construction activities shall be removed from the site immediately & shall be disposed off by the contractor to the approved dumping site outside JIPMER. The dumping site shall be identified by the contractor and shall be approved by the Engineer-in-charge. The contractor shall do proper segregation of debris and good earth before disposing debris at his own cost. **The contractor shall be liable to pay fine of Rs 1000/- if any complaint is received from JIPMER side due to debris/construction materials lying on road or improperly at site.**

36. The surplus soil/earth so segregated shall be disposed of as per the directions of Engineer-in-charge separately.
37. The contractor shall clean the site thoroughly of scaffolding materials, rubbish, equipments left out of his work and dress the site around the building to the complete satisfaction of the Engineer-in-charge before the work is treated as completed.
38. **Construction Worker's Welfare Cess @ 1% of gross work done shall be recovered from contractor's bill.**
39. The contractor shall provide his mobile number or the mobile number of his representative to the Engineer-in-Charge for ease of communication with the controlling staff.
40. Any cutting /Dismantling of road shall be carried out by marking and cutting the road using power cutting machine to the required size and then dismantling the road of the marked portion with the prior approval Engineer-in-charge.
41. No labour sheds are allowed inside the campus.

23. LIST OF APPROVED MAKE OF MATERIALS (CIVIL)

- 1) Unless otherwise specified, the brand/make of the material as specified in the item nomenclature or in the particular specifications or in the list of approved materials of this bid document and also brands approved by the Superintending Engineer(Puducherry), CPWD from time to time
- 2) List of Preferred Makes (Brands) of materials and names of specialized agencies is attached for usage in execution of work. However, approved equivalent material of any other specialized companies/ firms may also be used, in case it is established that the Brands specified are not readily available in the market or in other unavoidable circumstances subject to approval of alternate Brand by the Superintending Engineer (Puducherry).
- 3) It must be ensured, in general, that all materials to be used in the works shall bear BIS Certification mark. In cases where for a particular material/ product, BIS Certification Mark is not available, then the material proposed to be procured can be used subject to the conditions that it should conform to CPWD Specifications and relevant BIS codes. In such cases written approval of the NIT approving authority (The Superintending Engineer (Puducherry) or his successor thereof.) shall be obtained before use of such material in their works.
- 4) The list given below does not absolve the Executing Agency from their responsibility for using these products. It is only after, they have satisfied about the quality and performance, the products shall be used. To achieve this, proper check on the quality of the products, actually to be used, should be exercised.
- 5) The contractor shall obtain prior approval from the Engineer in charge before placing order for any specific material or engaging any of the specialized agencies. The contractor shall make a detailed submittal as per the contract with catalogues and proposed specifications (duly highlighting relevant matter). In case of specialized agencies, they will also submit full details of the works executed by the specialized agencies.
- 6) In case any make included in the preferred makes (brands) list is found to be below the standards of quality and specifications and/ or is deficient in any other manner, that make shall be considered as deleted by the Engineer in charge from the list.
- 7) Public procurement (Preference to Make in India) Order (PPP-MIII)-2017 - Revision dated 29.05.2019 and DoT Public Procurement (Preference to Make in India) Order (PPP-MII Order) dated 29.08.2018 with upto date amendments/ latest order till the last date of receipt of tender will prevail and shall be complied with.
- 8) The contractor will submit relevant documents to enable the Engineer in charge to verify that manufacturers have valid IS Certification as on date for materials, wherever applicable.

- 9) In case, make for any material to be used in work is not specified in the list, the Superintending Engineer (Puducherry) may approve the make based on the samples submitted by the agency, subject to fulfillment of IS/any other codal provisions.
- 10) The decision of Engineer in charge in case of any discrepancy shall be final and binding on all above points.
- 11) It must be ensured, in general, that all materials used in the works bear a valid BIS Certification mark. If a valid BIS Certification mark is not available for a particular material or product, then the proposed material can be used provided it conforms to CPWD specifications and relevant BIS codes. In such cases, written approval from the Superintending Engineer (Puducherry) shall be obtained before using such materials in their works.
- 12) The list provided below does not absolve the executing agency from their responsibility for using these products. The products shall only be used after the executing agency is satisfied with their quality and performance. To achieve this, a proper quality check on the product to be used should be exercised.
- 13) The agency shall arrange for factory visit of materials to be used in the execution of work, to inspect the quality assurance and quality control being maintained at factory during manufacturing process and to ensure the compliance of mandatory provision of Indian Standards/ Manufacture specification. A team headed by The Superintending Engineer (Puducherry) along with EE-in-C and their representatives, as decided by the NIT approving authority shall carry out the inspection cum factory visit from time to time during the execution of work.

Sl. No.	Materials	Preferred Make
1)	WHITE CEMENT	J.K. WHITE, BIRLA WHITE, ASIAN PAINTS, ULTRATECH
2)	ORDINARY PORTLAND CEMENT (43) GRADE	ACC, ULTRA TECH, COROMANDAL, CHETTINADU, DALMIA, & ZUARI.
3)	DAMP PROOF MATERIAL	ARDEX ENDURA, FOSROC, DR FIXIT (PIDILITE), SIKA & BASF.
4)	CHEMICAL ADMIXTURES	ARDEX ENDURA, FOSROC, SIKA, BASF, PIDILITE
5)	EXPANSION BOARD JOINT	SUPREME INDUSTRIES, DURAFILL, STP LTD
6)	INJECTION GROUTING	ARDEX ENDURA, FOSROC, SIKA, BASF, PIDILITE

Sl. No.	Materials	Preferred Make
7)	READY MIX CONCRETE	ULTRATECH, LAFARGE, ACC, RMC INDIA
8)	STEELWORK / TMT BARS	TATA, TISCO, VIZAG, JSW
9)	AAC BLOCKS	XTRALITE FROM ULTRATECH, AEROCON FROM HIL & NCL.
10)	CC BLOCKS / FLYASH BLOCKS	SIPOREX, SUNVIK, HIL, PRAGATHI, ULTRATECH
11)	FRP DOOR FRAME	MEENA, RAWJI, FIBERTECH, ASTRALWIN DOORS
12)	FRP DOOR SHUTTERS	MEENA, RAWJI, FIBERTECH, ASTRALWIN DOORS
13)	PVC DOOR AND DRAPE SHUTTER	SINTEX, DURO PLAST & QUTE & RAJSHRI
14)	WOODEN FLUSH DOORS	KITPLY, CENTURY, GREENPLY, ARCHID PLY
15)	WATERPROOF PLY	KITPLY, CENTURY, ARCHID PLY GREENPLY
16)	COMMERCIAL PLY	KITPLY, CENTURY, ARCHID PLY, GREENPLY
17)	LAMINATE	CENTURY, ROYAL TOUCH, GREENLAM, MERINO, ARCHID LAM
18)	HIGH PRESSURE LAMINATES	MERINO, GREENLAM, CENTURY, TESA, ARCHID
19)	PRELAMINATED PARTICLE BOARD (MDF/HDF/HD HMR)	GREENPLY, TESA, PERGO, CENTURY
20)	NATURAL WOOD VENEER	ARCHID, DURAIN, KITPLY, NATIONAL ACTION TESA
21)	GYPSUM BOARD	SAINT GOBAIN, BORAL BOARD, ARMSTRONG & ANUTONE
22)	DOOR HARDWARE	DORMA, HAFELE, GODREJ, GEZE
23)	HYDRAULIC DOOR CLOSERS/ FLOOR SPRINGS	DORMA, HAFELE, GODREJ, OZONE

Sl. No.	Materials	Preferred Make
24)	LOCKS/ LATCHES	DORMA, HAFELE, GODREJ, GEZE
25)	METTALIC FIRE RATED DOOR	BANGALORE PROTECH, KENWOOD, VEROTECH, AHLADA ENGINEERS LTD, SHAKTHI HORMANN
26)	FIRE RATED HARDWARE	DORMA, GEZE, DORSET, GARG, BACKERS FS
27)	STAINLESS STEEL SCREWS FOR FABRICATION AND FIXING OF WINDOWS	KUNDAN, PUJA, ATUL, HETTICH, HAFFLE
28)	BUTT/ BALL BEARING HINGES	KUNDAN, PUJA, ATUL, HETTICH, HAFFLE
29)	PIANO HINGES	KUNDAN, PUJA, ATUL, HETTICH, HAFFLE
30)	NUTS BOLTS/ SCREWS	KUNDAN, PUJA, ATUL, HETTICH, HAFFLE
31)	ACOUSTIC INSULATION	ANUTONE, LLOYD INSULATION, SAINT GOBAIN, ARMSTRONG
32)	GLASS/ REFLECTIVE GLASS	MODI FLOAT, SAINT GOBAIN, ASAHI
33)	UPVC WINDOWS/ VENTILATION	FENESTA, QUTE, SIMTA ASTRIX, NCL VEKA, RAJSHRI
34)	SOURCE FOR TEMPERING REFL. GLASS/ CLEAR	FUSO, SAINTGOBAIN, GURIND, IMPACT SAFETY
35)	FIRE RATED GLASS	PYOSWISS OF SAINT GOBAIN, PYRAN OF SCHOTT, PILKINGTON
36)	FALSE FLOOR	HEWETSON, UNIFLOOR, UNITILE, KEBAO
37)	ENGINEERED WOOD/ LAMINATE FLOORING	ARMSTRONG, PERGO, ACTION TESA, WELSPUN
38)	MIRROR GLASS	MODIGUARD, SAINT GOBAIN, ASAHI, ATUL
39)	STAINLESS STEEL FITTINGS	DORSET, DORMA, GEZE, HETTICH, HAFFLE

Sl. No.	Materials	Preferred Make
40)	ACOUSTIC PANELS FOR WALL PANELING	ARMSTRONG, ANUTONE, SAINT-GOBAIN
41)	STRUCTURAL STEEL	SAIL, TISCO, VIZAG, JSW
42)	MS PIPES	SAIL, TISCO, VIZAG, JSW
43)	WELDING ROD	ADVANI, ESAB
44)	METAL DECK SHEET	TATA, JINDAL, SAIL
45)	SHEAR STUD/ CONNECTOR	KOCO, STUD CRAFT, L&J TECHNOLOGIES, ARS INFRA SOLUTIONS
46)	CLAMP. REBAR, CHEMICAL FASTENER	HILTI, FISCHER, WURTH, AXEL
47)	ANCHOR FASTENERS/ BOLTS	HILTI, FISHER, CANON, BOSCH, AXEL, WURTH
48)	DASH FASTENERS	HILTI, FISHER, CANON, BOSCH, AXEL, WURTH
49)	STAINLESS STEEL BOLTS, WASHERS AND NUTS	ATUL/ HILTI/ GRIPWELL/ NAKODA, WURTH
50)	STAINLESS STEEL (SS 304 & 316)	SALEM, JINDAL, SAIL
51)	VITRIFIED TILES	KAJARIA, JOHNSON, RAK CERAMICS, SOMANY
52)	GLAZED CERAMIC TILES	JOHNSON, SOMANY, KAJARIA, RAK CERAMICS
53)	CEMENT CONCRETE PARKING TILES	NITCO, HINDUSTAN, EUROCON, DAZZLE ULTRA
54)	INTERLOCKING CONCRETE BLOCKS	NITCO - (ROCKARD), BHARAT - (NILSAN) REGENCY
55)	CLAY TILES ON ROOF	KENJAI, JOHNSON, COMMONWEALTH TRUST (IND) LTD
56)	TILE ADHESIVE	ARDEX ENDURA, PIDILITE, PERROUS, FOSROC, SIKA, MYK ARMENT

Sl. No.	Materials	Preferred Make
57)	CHEQUERED TERRAZO TILES	NITCO, JOHNSON, SOMANY, KAJARIA
58)	SYNTHETIC CARPET TILES	TOLI, HOLLITEX, STANDARD CARPETS, WELSPUN
59)	GLASS MOSAIC TILES	ITALIA, PALLADIO, BISAZZA, CORAL
60)	FALSE CEILING CALCIUM SILICATE	ARMSTRONG, AEROLITE, RAMCO, USGKNAUF
61)	FALSE CEILING MINERAL FIBRE	SAINT GOBAIN, ARMSTRONG, ANUTONE, AEROLITE
62)	FALSE CEILING MEMBERS (PER IMETER, CEILING SECTION,ERMEDIATES, ANGLES ETC.)	ARMSTRONG, GYP. ROCK (SAINT GOBAIN), ANUTONE, AEROLITE
63)	MASKING TAPES	3M, SUNCONTROL, WONDER POLYMER, ROOP
64)	SANDWICH PU PANELLED ROOFING SHEETS	LLOYD INSULATION (INDIA) LTD., JINDAL, MECTEC PVT LTD., TATA
65)	GALVALUME SHEET	LLOYD (INDIA) LTD., JSW, TATA BLUESCOPE
66)	MELAMINE POLISH	ASIAN PAINTS, MALAMYNE GOLD WUDFIN OF PIDILITE INDUSTRIES TIMBERTONE OF ICI DULUX, NIPPON
67)	PAINT/ PRIMER/ OIL BOUND DISTEMPER ACRYLIC PAINT	ASIANPAINTS, NEROLAC, BERGER, NIPPON PAINTS
68)	WATER PROOF CEMENT PAINT	SNOW CEMINDIALTD, ASIAN PAINTS, NIPPON PAINTS
69)	SYNTHETIC ENAMEL PAINT	BERGER, NEROLAC, ASIAN, NIPPON
70)	ACRYLIC TEXTURED PLASTER	ASIAN PAINTS, NEROLAC, BERGER, NIPPON
71)	FIRE RETARDANT PAINT	JOTUN, HILTI, AKZONOBEL, NIPPON
72)	ANTI CORROSIVE BITUMASTIC PAINT	ASIAN/ BERGER/ SHALIMAR, NIPPON

Sl. No.	Materials	Preferred Make
73)	EPOXY PAINT	BERGER PAINTS, ASIAN PAINTS, MRF, ARDEX ENDURA, FOSROC, NIPPON
74)	EPOXY COATING	ARDEX ENDURA, BASF, FORSOC, LATICRETE, MRF, ASIAN PAINTS, NIPPON
75)	ACRYLIC EXTERIOR PAINT	ASIANPAINTS, BERGER, NEROLAC, NIPPON PAINTS
76)	BITUMEN	INDIAN OIL, HINDUSTAN PETROLEUM, BHARAT PETROLIUM
77)	VITREOUS WC / WASH BASIN	HINDWARE, KOHLER, GROHE, ROCA, CERA & JAQUAR
78)	GULLY TRAPS	PERFECT, PARRY
79)	STAINLESS STEEL SINKS	NEELKANTH, NIRALI, DIAMOND, HINDWARE, CARYSIL,
80)	C. P. BRASS FITTINGS	JAQUAR, KOHLER, GROHE, ROCA, CERA
81)	GI PIPES	TATA, JINDAL (HISSAR), ZRNITH
82)	GI PIPE FITTINGS	ZOLOTO, UNIK, HB, ICS
83)	RCC PIPES	INDIAN HUME PIPE, MOHAN HUME PIPE, BANGALORE CEMENT PIPES
84)	SPUN CAST IRON COVERS & GRATINGS	NECO, SKF, BENGAL IRON CORPORATION
85)	SPUN CAST IRON PIPES & FITTINGS	NECO, SKF, BENGAL IRON CORPORATION
86)	SOIL, WASTE & VENTPIPES & FITTING (A) HUBLESS CENTRIFUGAL CAST IRON	BIC, NECO, KAPILANSH, HEPCO, SKF
87)	SWR PVC PIPES AND FITTINGS	SUPREME, FINOLEX, PRINCE, ASTRAL
88)	C.I. MANHOLE COVER	NECO, BIC, HEPCO
89)	SFRC COVER AND GRATING	TULSHI CONCRETE, KK, ADVENT, NEW TECH

Sl. No.	Materials	Preferred Make
90)	PLASTIC ENCAPSULATED FOOTREST	KK INDIA, KGM, ACCURATE BUILDCON
91)	CPVC PIPE AND FITTINGS	SUPREME, ASHRIVAD, FINOLEX, PRINCE, ASTRAL
92)	UPVC PIPES	SUPREME, PRINCE, FINOLEX
93)	WATER SUPPLY VALVES	ZOLOTO, LEADER, ARCO
94)	AIR RELEASE VALVES	KIRLOSKAR, RBM, KARTAR
95)	GUN METAL VALVES	ZOLTO, LEADER, SANT, ANDCO INDIA
96)	CI DOUBLE FLANGED SLUICE VALVES	KIRLOSKAR, IVS, BURN, ZOLOTO, LEADER
97)	CI DOUBLE FLANGED NON-RETURN VALVES	KIRLOSKAR, FLUIDTEH, ZOLOTO
98)	POLYSTER POWDER COATED SHADES	NEROLAC, BERGER, AKZONOBEL, ASIAN
99)	STRUCTURAL SILICON/ WEATHER SILICON	DOW CORNING/ WACKER/ GE
100)	ALUMINIUM SYSTEMS/ ANODIZED ALUMINUM FITTINGS FOR DOORS/ WINDOWS	HARDIMA, EVERITE, SIGMA (ISI MARKED) JYOTHI & CLASSIC
101)	ALUMINIUM SECTIONS	JINDAL, HINDALCO, INDALCO
102)	FRICTION STAY HINGES	EBCO, HAFELE, SEVAX
103)	E.P.D.M GASKETS	ANAND/ ROOP/ BOHRA/ HANU/ AMEERUBBER
104)	WATERPROOFING COMPOUND	SIKA, FOSROC PIDILITE, ARDEX ENDURA, MYK ARMENT
105)	INTEGRAL CRYSTALLINE ADMIXTURE	KRYTON, PENETRON/ XYPEX, MYK ARMENT
106)	INTEGRAL CRYSTALLINE SLURRY	KRYTON, PENETRON/ XYPEX, MYK ARMENT

Sl. No.	Materials	Preferred Make
107)	FIBRE REINFORCEMENT ELASTOMERIC LIQUID WATER PROOFING MEMBRANE	KRYTON, PENETRON/ XYPEX, ASIAN PAINTS, MYK ARMENT
108)	CHLOROPHYRIPHOS	DURSBANTCT, PREMISE AGENDS, PYRAMID. NOBAN, HILBAN.
109)	MEMBRANE WATER PROOFING SYSTEM	BASF, PIDILITE , FOSROC, ASIAN PAINTS, MYK ARMENT
110)	POLYMER BASED CONTENTIOUS WATER PROOF COATINGS	BASF, PIDILITE , FOSROC, ASIAN PAINTS, MYK ARMENT
111)	ALUMINIUM COMPOSITE PANEL (ACP)	ALUCOBOND, EUROBOND, DURABUILD, ALSTONE
112)	NON METALIC SURFACE HARDNER	FOSROC, SIKA, PIDLITE
113)	EPOXY MORTAR	FOSROC, SIKA, BASF, ULTRATECH, PIDILITE, ASIAN PAINTS
114)	SMOKE SEAL STRIP	WURTH PROMAT/ ASTRO FLAME
115)	WATER STOPS	BASF, HYDROSWELL, PIDILITE, BOSTIK, ASIAN PAINTS
116)	PVC PERFORATED PIPES	REXPOLY EXTRUSION LTD, AKASHE NTERPRISES, ZENPLAS PIPES PVT.LTD
117)	POLY SULPHIDE SEALANT	PIDILITE,CHEMETALL-RAJ, FOSROC, CHOKSEY CHEMICALS, TUFF SEAL, MYK ARMENT
118)	BITUMEN IMPREGNATED BOARD	SHALI TEXOR EQUIVALENT
119)	POLY ETHYLENE BACKERROD	SUPREME IND.LTD.OR EQUIVALENT
120)	GRC JALI	TERRAFIRMA, ECOVISION, BIRLA WHITE GRC, EVEREST GRC
121)	POLY CARBONATE SHEET	DANPALON, ALCOX, POLYGAL, V.A. CORPORATION, ALFA, GE, LEXON, TUFLITE

Sl. No.	Materials	Preferred Make
122)	PT STRANDS	DPWIRES, TATA, USHAMARTIN
123)	WOOD POLYMER COMPOSITE MATERIALS FOR DOOR FRAMES AND SHUTTERS, PLAIN/PRE LAMINATED BOARDS FOR WALL LININGS ETC	RAJSHRI , QUTE, PROMINANCE
124)	GRASS PAVER	UNISTONE, ULTRA
125)	PLYWOOD FOR CONCRETE SHUTTERING WORK	BALAJEE PLY
126)	EPOXY	FOSROC, ARDEX, ASIAN PAINTS
127)	STRUCTURAL SEALANT	FOSROC, BASF, STP LTD
128)	POLY-SULPHIDE SEALANT	BASF, DR FIXIT, PIDILITE
129)	STRUCTURAL GLAZING	MODI, SAINT GOBIN, ASAHI
130)	SPIDER PATCH FITTINGS FOR STRUCTURAL GLAZINGS	DORMA, OZONE, HAFELE
131)	CHEMICAL WATER PROOFING SYSTEM	FOSROC, BASF, DR FIXIT, SIKA
132)	ALUMINIUM FORMWORK	MIVAN, S FORM, MFS
133)	SILICON GASKETS	SREE GAURAV
134)	MASKING TAPES	3M, SUN, ROOP
135)	ADHESIVE (MANUFACTURE SPECS)	ARDEX ENDURA, SIKA, FOSROC, PIDLITE, BOSTIK, MYK ARMENT
136)	GROUTS	KERAKOLL, WEBER, ARDEX ENDURA, BOSTIK, FOSROC, PIDILITE, ASIAN PAINTS, MYK ARMENT
137)	SOLAR STUDS/ MEDIAN MARKERS	3M, AVERY DENNISON, NIKKALITE
138)	POLY CARBONATE CONVEX MIRRORS, RUBBERISED ROAD HUMP	UNIQUE SAFETY SOLUTIONS, LAOWA
139)	AIR TRANSFER GRILLS	COOLGRILLS PUNE, SYSTEM AIR INDIA
140)	THERMAL INSULATION TREATMENT	PIDILITE, BASF, BERGER, ARDEX ENDURA

Sl. No.	Materials	Preferred Make
141)	PEB FABRICATORS	LLOYD INSULLATIONS (INDIA) LTD, M/S KIRBY BUILDING SYSTEM, TATA BLUESCOPE, PEBSPENNAR
142)	CONCEALED TOWER BOLT	DORMA, INGERSOLRAND, DORSET, ALU ALPHA
143)	FLOAT GLASS	SAINT GOBAIN, ASAHI, MODIGUARD
144)	TEMPERED REFLECTIVE/ CLEAR GLASS	SAINT GOBAIN, MODIGUARD, IMPACT SAFETY
145)	STAINLESS STEEL PRESSURE PLATE SCREWS	KUNDAN, POOJA, ATUL
146)	SYNTHETIC SPORTS FLOORING	ARMSTRONG, LG, WONDORFLOOR
147)	LINOLEUM SPORTS FLOORING	ARMSTRONG, FORBO, GERFLOR
148)	FLOOR SPRING (FOR NON DSR ITEMS)	DORMA, INGERSOLRAND, OZONE, GEZE
149)	CEMENT BASED WALL PUTTY	J.K. WALL PUTTY, BIRLA WALL CARE, ASIAN PAINTS, BERGER
150)	READY MIX CEMENT PLASTER	READI PLAST, GYPROC PLASTERS, ULTRA TECH, FERROUS CRETE
151)	FLUSHING CISTERN	PARRYWARE, KOHLER, HINDWARE, JAQUAR
152)	PVC/HDPE WATER STORAGE TANKS	VECTUS, SUPREME
153)	WATER SUPPLY FIXTURES LIKE BIBCOCK, SHOWER PANELS,	JAQUAR , PARRYWARE, JHONSON, HINDWARE
154)	ROCK WOOL/GLASSWOOL, INSULATION	TWIGAFIBER, LLYOD INSULATION, SUPEREME
155)	SENSOR BASED AUTO FLUSH SYSTEM	AOS SYTEM, TOTO, PARRYWARE, KOHLER HINDWARE, GROHE, JAQUAR, KOCHIER
156)	FLOAT VALVE (BALL VALVE)	PRAYAG, LEADER, ZOLOTO, IBP, ARCO
157)	MULTI CELL POLYCARBONATE ROOFING SHEETS	DANPALON, LEXAN GE
158)	PU COATING (UV RESISTANT LIQUID APPLIED COATING)	SMART CARE, PIDILITE , BASF, FOSROC, SIKA PUROOFKOAT
159)	ACRYLIC EXTERIOR TEXTURES	ASIAN PAINTS, BERGER, NEROLOC
160)	GRP/SMC PANEL TANK	PIPECO TANKS, FLOSTO TANKS, VIVANTA, AMITEX

24. SCHEDULE OF QUANTITIES (CIVIL)

Name of Work: Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
1	2	EARTH WORK				
1.2	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
1.2.1	2.6.1	All kinds of soil.	170.00	cum	244.67	41594.00
1.5	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	170.00	cum	302.43	51413.00
2	4	CONCRETE WORK				
2.3	4.20	Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS:9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.				

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
2.3.1	4.20.1	All works upto plinth level :				
2.3.1.1	4.20.1.1	Concrete of M10 grade with minimum cement content of 220 kg /cum	5.00	cum	9566.71	47834.00
3	5	REINFORCED CEMENT CONCRETE				
3.1	5.9	Centering and shuttering including strutting, propping etc. and removal of form for				
3.1.1	5.9.1 C/S No.15	Foundations, footings, bases of columns, etc. for mass concrete	12.00	sqm	395.50	4746.00
3.1.2	5.9.2 C/S No.15	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	151.00	sqm	836.01	126238.00
3.1.3	5.9.3	Suspended floors, roofs, landings, balconies and access platform	40.00	sqm	912.88	36515.00
3.1.4	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers	35.00	sqm	724.48	25357.00
3.2	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.				
3.2.1	5.22.6	Thermo-Mechanically Treated bars of grade Fe-500D or more.	6030.00	kg	106.76	643763.00
3.4	5.33	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.				
3.4.1	5.33.1	All works upto plinth level				
3.4.1.1	5.33.1.3	Concrete of M35 grade with minimum cement content of 370 kg /cum	50.00	cum	10678.70	533935.00
3.5	5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein.	15.00	quintal	819.87	12298.00
4	6	MASONRY WORK				

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
4.2	6.47	Providing and laying Autoclaved Aerated concrete (AAC) blocks masonry with 150mm/230mm/300 mm thick with Grade-I AAC blocks of density 551 to 650 kg/ cum conforming to IS: 2185 (Part 3) in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineer-in-Charge. (The payment of RCC band and reinforcement shall be made for seperately).	25.00	cum	8590.53	214763.00
8	11	FLOORING				
8.1	11.4	52 mm thick cement concrete flooring with concrete hardener topping, under layer 40 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacturer's specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.	310.00	sqm	1019.29	315980.00
8.2	11.6	Cement plaster skirting up to 30 cm height, with cement mortar 1:3 (1 cement : 3 coarse sand), finished with a floating coat of neat cement.				
8.2.1	11.6.1	18 mm thick	10.00	sqm	679.70	6797.00
8.3	11.20	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand).				
8.3.1	11.20.1	Light shade pigment using white cement	30.00	sqm	1468.43	44053.00
8.5	11.41	Providing and laying Full body Matt/ Polish vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete (vitrified floor tiles supplied by the department free of cost)				
8.5.1	11.41.2	Size of Tile 600x600 mm	1000.00	sqm	457.96	457960.00

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
8.6	11.46	Providing and laying Full body Matt/ Polish Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/sqm including grouting the joint with white cement & matching pigments etc.complete. (vitrified floor tiles supplied by the department free of cost)				
8.6.1	11.46.2	Size of Tile 600x600 mm	100.00	sqm	541.50	54150.00
8.7	11.48	Grouting the joints of flooring tiles having joints of 3 mm width, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling / grouting and finishing complete as per direction of Engineer-in-charge.				
8.7.1	11.48.2	Size of Tile 600x600 mm	1000.00	sqm	159.94	159940.00
	11.55	Providing and laying flamed/honed/Leather finish Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge : (flamed/honed/Leather finish Granite stone supplied by the department free of cost)				
	11.55.1	Flamed/honed/Leather finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	200.00	sqm	806.12	161224.00
8.9	11.56	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
8.9.2	11.56.1	Polished Granite stone slab colour of Black, Cherry/Ruby Red or equivalent (Polished Granite stone supplied by the department free of cost)	450.00	sqm	595.92	268164.00
9	12	ROOFING				
9.5	12.45	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I.wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :				
9.5.1	12.45.1	12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part I) :2011 (Board with BIS certification marks)	41.00	sqm	1364.71	55953.00

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
9.6	12.52	Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge				
9.6.1	12.52.1	GI Metal Ceiling Lay in plain Tegular edge Global white color tiles of size 595x595 mm, and 0.5 mm thick with 8 mm drop; made of G I sheet having galvanizing of 100 gms/sqm (both sides inclusive) and electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending.	206.00	sqm	1895.55	390483.00
10	13	FINISHING				
10.1	13.4	12 mm cement plaster :				
10.1.1	13.4.1	1:4 (1 cement: 4 coarse sand)	500.00	sqm	365.90	182950.00
10.2	13.5	15 mm cement plaster on rough side of single or half brick wall of mix:				
10.2.1	13.5.1	1:4 (1 cement: 4 coarse sand)	500.00	sqm	422.17	211085.00
10.4	13.7	12 mm cement plaster finished with a floating coat of neat cement of mix				
10.4.1.	13.7.1	1:3 (1 cement : 3 fine sand)	160.00	sqm	445.57	71291.00
10.6	13.16	6 mm cement plaster of mix				

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
10.6.1	13.16.1	1:3 (1 cement : 3 fine sand)	130.00	sqm	301.36	39177.00
14	19	DRAINAGE				
14.4	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
14.4.1	19.6.2	150 mm dia. R.C.C. pipe	50.00	metre	587.23	29362.00
14.4.2	19.6.4	300 mm dia. R.C.C. pipe	50.00	metre	1074.25	53713.00
14.5	19.9	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand), inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
14.7	19.19	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality				
14.7.1	19.19.1	L D- 2.5				
14.7.1.1	19.19.1.1	Rectangular shape 600x450 mm internal dimensions	4.00	each	1494.87	5979.00
16	22	WATER PROOFING				
16.1	22.4	Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete :				
16.1.1	22.4.1	Serrated with central bulb (225 mm wide, 8-11 mm thick)	80.00	metre	340.12	27210.00
17	23	RAIN WATER HARVESTING & TUBEWELLS				
17.1	23.1	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level.				
17.1.1	23.1.1	300 mm dia	96.00	metre	705.07	67687.00

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
17.2	23.3	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.				
17.2.1	23.3.1	100 mm nominal size dia	74.00	metre	658.80	48751.00
17.3	23.4	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.				
17.3.1	23.4.1	100 mm nominal size dia	36.00	metre	690.66	24864.00
17.4	23.8	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	10.00	cum	1761.63	17616.00
17.5	23.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	12.00	hour	1091.81	13102.00
17.6	23.13	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell of:				
17.6.1	23.13.1	100 mm dia	1.00	each	225.85	226.00
17.7	23.14	Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete				
17.7.1	23.14.1	100 mm clamp	2.00	each	1813.14	3626.00
17.8	23.15	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).				
17.8.1	23.15.1	100 mm dia	1.00	each	271.82	272.00

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
12	17	SANITARY INSTALLATIONS				
12.1	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
12.1.1	17.28.2	Flexible pipe				
12.1.1.1	17.28.2.1	32 mm dia	36.00	each	124.27	4474.00
12.2	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	13.00	each	1680.53	21847.00
12.3	17.32	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :				
12.3.1	17.32.4	Rectangular shape 1500x450 mm	31.00	each	2164.10	67087.00
12.4	17.35	Providing and fixing soil, waste and vent pipes :				
12.4.1	17.35.1	100 mm dia				
12.4.1.1	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	150.00	metre	1263.84	189576.00
12.4.2	17.35.2	75 mm diameter :				
12.4.2.1	17.35.2.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	250.00	metre	1033.16	258290.00
12.5	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
12.5.1	17.38.1	100 mm dia				
12.5.1.1	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	40.00	each	655.95	26238.00
12.5.2	17.38.2	75 mm dia				
12.5.2.1	17.38.2.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	40.00	each	523.99	20960.00
12.6	17.39	Providing and fixing plain bend of required degree.				
12.6.1	17.39.1	100 mm dia				
12.6.1.1	17.39.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	10.00	each	412.11	4121.00
12.6.2	17.39.2	75 mm dia				
12.6.2.1	17.39.2.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	20.00	each	291.41	5828.00
12.7	17.40	Providing and fixing heel rest sanitary bend				
12.7.1	17.40.1	100 mm dia				
12.7.1.1	17.40.1.2	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	10.00	each	523.70	5237.00

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
12.7.2	17.40.2	75 mm dia				
12.7.2.1	17.40.2.2	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	10.00	each	482.61	4826.00
12.8	17.41	Providing and fixing double equal junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete :				
12.8.1	17.41.1	100x100x100x100 mm				
12.8.1.1	17.41.1.1	Sand cast iron S&S as per IS - 1729	20.00	each	1237.04	24741.00
12.8.2	17.41.2	75x75x75x75 mm				
12.8.2.1	17.41.2.2	Sand cast iron S&S as per IS - 3989	20.00	each	858.64	17173.00
12.9	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
12.9.1	17.43.1	100x100x100 mm				
12.9.1.1	17.43.1.2	Sand cast iron S&S as per IS - 3989	2.00	each	871.02	1742.00
12.9.2	17.43.2	75x75x75 mm				
12.9.2.1	17.43.2.1	Sand cast iron S&S as per IS - 1729	16.00	each	683.34	10933.00
12.10	17.56	Providing and fixing terminal guard :				
12.10.1	17.56.1	100 mm				
12.10.1.1	17.56.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	6.00	each	475.88	2855.00
12.10.2	17.56.2	75 mm				
12.10.2.1	17.56.2.1	Sand cast iron S&S as per IS - 1729	10.00	each	379.00	3790.00
12.11	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipe				
12.11.1	17.57.A.1	100 mm				
12.11.1.1	17.57.A.1.1	SS 304 grade coupling with EPDM rubber gasket	200.00	each	483.86	96772.00
12.11.2	17.57.A.2	75 mm				
12.11.2.1	17.57.A.2.1	SS 304 grade coupling with EPDM rubber gasket	300.00	each	434.80	130440.00
12.12	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
12.12.1	17.60.1	100 mm inlet and 100 mm outlet				
12.12.1.1	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	7.00	each	906.09	6343.00
12.12.2	17.60.2	100 mm inlet and 75 mm outlet				
12.12.2.1	17.60.2.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	80.00	each	659.10	52728.00

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
12.13	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :				
12.13.1	17.65.1	100 mm diameter pipe	150.00	metre	82.83	12425.00
12.13.2	17.65.2	75 mm diameter pipe	250.00	metre	63.00	15750.00
12.14	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
12.14.1	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	118.00	each	714.95	84364.00
12.15	17.78	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/ 6 litre (adjustable to 4 litre/ 8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	62.00	each	15525.18	962561.00
13	18	WATER SUPPLY				
13.1	18.7	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
		Internal work - Exposed on wall				
13.1.1	18.7.3	25 mm nominal dia Pipes	10.00	metre	486.54	4865.00
13.1.2	18.7.4	32 mm nominal dia Pipes	30.00	metre	596.58	17897.00
13.1.3	18.7.5	40 mm nominal dia Pipes	160.00	metre	803.08	128493.00
13.1.4	18.7.6	50 mm nominal dia Pipes	250.00	metre	1103.96	275990.00
13.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.				
13.2.1	18.8.2	20 mm nominal dia Pipes	17.00	metre	611.82	10401.00
13.2.2	18.8.3	25 mm nominal dia Pipes	400.00	metre	745.56	298224.00
13.2.3	18.8.4	32 mm nominal dia Pipes	20.00	metre	848.81	16976.00

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
13.3	18.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.				
		External work				
13.3.1	18.9.7	65 mm nominal dia Pipes	200.00	metre	1877.92	375584.00
13.4	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
13.4.1	18.17.1	25 mm nominal bore	23.00	each	633.97	14581.00
13.4.2	18.17.3	40 mm nominal bore	3.00	each	842.32	2527.00
13.4.3	18.17.4	50 mm nominal bore	5.00	each	1045.90	5230.00
13.4.4	18.17.5	65 mm nominal bore	4.00	each	1775.27	7101.00
13.5	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
13.5.1	18.18.3	25 mm nominal bore	2.00	each	475.35	951.00
13.6	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions				
13.6.1	18.21.2	45 cm length				
13.6.1.1	18.21.2.1	15 mm nominal bore	124.00	each	101.46	12581.00
13.7	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
13.7.1	18.53.1	15mm nominal bore	124.00	each	595.86	73887.00
14	19	DRAINAGE				
14.1	19.1	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
14.1.1	19.1.2	150 mm diameter	42.00	metre	704.30	29581.00
14.2	19.2	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design :				
14.2.1	19.2.2	150 mm diameter S.W. pipe	42.00	metre	1304.21	54777.00
14.3	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight SFRC cover with frame of 300 x300 mm size (inside)				
14.3.1	19.4.2	150 x 100 mm size P type				

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
14.3.1.1	19.4.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	7.00	each	2946.75	20627.00
14.4	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
14.4.1	19.6.2	150 mm dia. R.C.C. pipe	50.00	metre	587.23	29362.00
14.4.2	19.6.4	300 mm dia. R.C.C. pipe	442.22	metre	1074.25	475055.00
14.5	19.9	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand), inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
14.5.1	19.9.1	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :				
14.5.1.1	19.9.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 5.0	22.00	each	14155.53	311422.00
14.6	19.10	Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m				
14.6.1	19.10.1	With common burnt clay F.P.S. (non modular) bricks of class designation 5.0	5.00	metre	8320.55	41603.00
14.7	19.19	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality				
14.7.1	19.19.1	L D- 2.5				
14.7.1.1	19.19.1.1	Rectangular shape 600x450 mm internal dimensions	33.00	each	1494.87	49331.00

SL. No	DSR No.	Description of Item	Qty	Units	Rate i/c GST 18% & CI 12%	Amount
34	NSR	Providing and fixing 18mm thick machine cut granite slab in risers of steps, wall cladding, skirting etc. mirror polished, of required size of approved shade, colour and texture on 12mm thick cement mortar 1:3 (1 cement : 3 coarse sand) with joints treated with white cement mixed with matching pigment epoxy touch ups including rubbing, curing, polishing to give high gloss finish etc. complete at all levels (Single piece stone to be used in treads of steps of width up to 1.80 m).(machine. cut slab shall match the flooring joints in general)	200.00	sqm	5245.05	1049010.00
				Total		9787228.00

**Executive Engineer (Civil) Puducherry-I,
CPWD, Puducherry.**

25. MAIN ABSTRACT



CENTRAL PUBLIC WORKS DEPARTMENT

Name of Work: Construction of 400 Bedded boys Hostel Building at JIPMER Campus, Puducherry. (Civil Work): Building portion including internal water supply lines, Sanitary Installation, drainage, demolition of existing quarters & other development works. (Electrical and Mechanical Installation): Package C1: Providing Internal E1, C2: Providing fire alarm system, C3: Providing Firefighting system, C4: Providing CCTV, C5: Providing 3 Nos 13 Passenger lift, C6: Providing 5000 LPD Solar Water Heater, C7: Providing Networking, (Agreement No. 32/EE(Puducherry)/CPWD/2023-24) Sub Head: Risk & Cost under clause 14 for execution of Masonry work, Finishing work, Sanitary Installations, Water supply, drainage, Rain water harvesting, False ceiling, CC flooring, vitrified tile flooring work, vitrified tile skirting work and Granite work for flooring, wall and steps.

SCHEDULE OF QUANTITIES

Name of the Contractor					
Sl. No.	Name of component	Estimated cost	Percentage above or below the estimated cost	% in Figures	Total Cost
1	2	3	4	5	6
1	Civil	Rs. 97,87,228/-	At Par		Rs. 97,87,228/-
	Grand Total				Rs. 97,87,228/-

IMPORTANT NOTE :

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

*Signature
of
Contractor:
Name :
Date :
Postal
Address:
E-Mail ID :*

**Executive Engineer(Civil) Puducherry-I,
CPWD, Puducherry.**