



BEML LIMITED

TENDER DOCUMENT

For

**CONSTRUCTION OF STAFF QUARTERS AND ALLIED BUILDINGS
AT BEML LIMITED, PALAKKAD COMPLEX, KERALA**

**TENDER CONDITIONS
SCOPE OF WORK
&
BILL OF QUANTITY (BOQ)**

SRM Bid No: 6300039258

LAST DATE FOR SUBMISSION ONLINE: 03/02/2025 @ 17.00 Hrs

ISSUED BY

**The General Manager,
Material Management
BEML Limited
Palakkad Complex**

BEML LIMITED

(A Government of India Mini Ratna Company under Ministry of Defence)
 Kinfra Wise Park, Kanjikode, Palakkad – 678621, Telephone: 0491-2568178

Bid invitation No: 6300039258

Closing Date: 03/02/2025

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02. QUALIFICATION CRITERIA

A. Tender Description	As indicated in TENDER NOTICE
B. Contract period	TWELVE (12) Months
C. Tender No.	SRM Tender - 6300039258
D. Tender closing date / time	03/02/2025 – 17.00 Hrs (5.00 PM)
E. Security Deposit	10% of P.O value to be submitted
F. Labour License under contract labour (R & A) ACT 1970 and Central Rules made there under	Successful bidder has to submit a valid Labour licence / Proof of applying for the same within a period of one month from the date of awarding work order.
G. PF and ESI	Firm should have PF and ESI Code Nos OR on award of contract the successful bidder (Firm) shall apply for PF and ESI codes to the respective authorities. In case the firms have registration in other states (other than Kerala) they have to agree to obtain separate sub code for the local area.

The scanned copies of following qualifying documents are to be uploaded along with the Technical bid.

Sl. no	Description	Requirement		Remarks
		Detail	Value Rs. in Lakhs	
1	Tender Document	To be uploaded in SRM		Signed & sealed Tender document to be uploaded in SRM along with other Technical documents.
2	NIT Acceptance Letter	NIT Acceptance letter to be uploaded in SRM		Signed & sealed NIT Acceptance letter to be uploaded in SRM along with other Technical documents.
3	Corrigendum if any	All pages of corrigendum need to be signed & sealed.		Corrigendum to be submitted along with other technical documents.
4	Average Minimum Annual Financial Turn over in last 3 years ending 31 st March 2024	Certified by practicing CA	503.28	CA certificate to be submitted along with other technical documents.

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5	Experience in executing similar type of works/ civil works completed during last 7 years ending November 2024 value greater than or equal to the said requirement. Note: Similar works means Civil Works like Building works carried out in public sector/Private organizations & Govt. organizations.	3 Similar works each of Minimum value	671.04	(a) The experience certificate shall be considered only for the works completed in full & complete. (b) Select any applicable one and upload scanned copy of similar work completion certificates issued by client. (c) If the works /contracts were carried out in other than Government or PSUs, the bidders have to submit TDS Certificates along with experience Certificate.
		2 Similar works each of Minimum value	838.80	
		1 Similar work of Minimum value	1342.08	
6	Solvency certificate	Enclose Copy	671.04	Nationalized / Scheduled Bank in Favor of the bidder and the certificate shall be within a period of 12 months from the date of submission of the tender.
7	Earnest Money Deposit (EMD)	To be remitted before tender closing date	33.55	Proof of remittance to be submitted in SRM (RTGS / DD / Cheque) or exemption certificate to be uploaded
8	Integrity Pact	Enclose Copy		To be submitted with seal and signature on SRM
9	PF & ESI Registration Certificate	Enclose copy		Copy to be submitted
10	PAN No. & GST No	Enclose copy		Copy to be submitted
11	Latest 3 Financial Years IT returns Filing	Enclose copy		Copy to be submitted
12	Labour License under contract labour (R & A) ACT 1970 and Central Rules made there under	Enclose copy		If labour license already available copy to be scanned uploaded.

SIGNATURE OF CONTRACTOR (S) WITH SEAL

Bid invitation No: 6300039258**Closing Date: 03/02/2025****03. NOTICE INVITING TENDER (NIT)**

Subject: Tender for Construction of Staff quarters & Allied Buildings at BEML Limited, Palakkad Complex, Kanjikode, Palakkad, Kerala

INTRODUCTION:

BEML intends to Construct Staff Quarters & Allied Buildings at BEML Limited, Palakkad complex, Kanjikode, Palakkad, Kerala.

The detailed specification, work, etc., are mentioned in BOQ.

BEML LIMITED invites tender in two bid system (Submission of EMD and Technical Bid & Commercial Bid through SRM) from eligible reputed firms / contractors for the Construction of Staff Quarters & Allied Buildings including Electrical, Plumbing Works, Road, UG sump etc., as per BOQ at BEML Limited, Palakkad complex, Kanjikode, Palakkad, Kerala.

Please submit your Quotations through e-mode on BEML SRM platform, as per tender for the subject works at Palakkad complex, BEML LIMITED, Palakkad, as stated in the scope of work.

This Tender consisting of two parts:

Part A – Submission of EMD and Technical Bid i.e. Submission of Technical Bid (Through SRM)

Part B – Commercial Bid i.e. Submission of Price Bid (Through SRM)

Instructions for submission of the bids:

Both Technical Bid (incl of payment of EMD /EMD Exemption certificates) and Commercial bid are to be submitted through electronic mode only in the SRM system.

Part A: Technical Bid: (Online mode)

- a) Please upload all the technical bid documents in the SRM system and ensure that no price details are mentioned in any of the documents uploaded as part of the Technical Bid.
- b) Corrigendum regarding the tender if any will be published in SRM website only before the tender closing date. Bidders to make note of the above and check the website before tender closing date / time to have the latest communication / update. The same to be signed with company seal and scanned copy to be uploaded with the technical bid documents.
- c) Documents as indicated in the Mandatory qualifications of the contractor for eligibility are to be uploaded on SRM Platform. (Commercial bids of the bidder will be opened only if all

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the technical requirements are fulfilled and qualified through technical evaluation. Hence the bidders are advised to upload all the required documents carefully.)

- d) The tender documents will be considered at the sole discretion of M/s BEML Ltd, whose decision in the matter will be Final & Binding. Failure to do so will result in rejection of the bid.

Part B: Submission of Commercial Bid: (e-mode)

- a) Price bid to be submitted in SRM system only against the respective line items provided therein before tender closing date and time specified.
- b) In case Bidder is not quoting for all the activities in price bid, then their offer will be rejected.
- c) Quotations sent by Fax / Email / Quotations on letter heads will not be entertained. The offers should be only on SRM platform.

Technical Bid will be opened first on the specified date and time. Commercial Bid (Bill of quantities) will be opened only, if the firm qualifies in the Technical Bid. Incomplete details of the Technical Bid will be rejected summarily. BEML have its right to reject any bid without assigning any reason what so ever.

Incomplete / Invalid Tenders and tenderers submitting without payment of EMD / uploading EMD Exemption (as per SRM) will be rejected and no correspondence will be entertained in case of rejection.

General Instructions with regard to EMD:

- a) Quotation submitted online without submission of EMD/EMD Exemption Certificate in-time will not be considered.
- b) EMD submitted in any other form will not be accepted and the offer is liable to be rejected.
- c) EMD lesser than will not be accepted and the quotation is liable to be rejected.
- d) EMD of technical disqualified bidders will be returned.
- e) EMD does not carry any interest on return.
- f) Pre-qualification and technical bids shall be opened **on closing date i.e. 03/02/2025**
- g) No responsibility will be taken for postal delay or non-delivery/non-receipt of EMD/firms claiming EMD exemption.

Offers without EMD or EMD in the form other than the one specified or EMD with lesser amount shall not be considered and tenders will be rejected. No Interest would be paid on the Earnest Money Deposit.

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Completion Period: The period allowed for execution of the work is for 12 months or till completion of the project in all respects and details (Scope, time and payment schedule) of Terms and Conditions from the date to be mentioned in the work order to be placed on the successful bidder.

Communication: Any queries / clarification / information / details regarding tender enquiry to be communicated only through email Id: dhinesh.a@bemltd.in and queries/clarification/information/details will be accepted up to two days prior to the closing date of the tender.

PRE-BID MEETING:

Pre-bid meeting will be organized **through Video Conference**, interested bidders are advised to send the email to dhinesh.a@bemltd.in for the participation on or before 07.01.2025 @17.00 Hrs to share the video-conference link for Pre-Bid meeting scheduled on 08.01.2025 at 11.00 AM

- Any queries/clarification/information/details if required by the bidder, the same to be sent to e-mail address: dhinesh.a@bemltd.in
- The queries will be accepted and entertained up to 07.01.2025 @ 17.00 Hrs to the pre-bid meeting, the decision of BEML on this will be final & binding.
- It is suggested that all the bidders should send queries & obtain all the clarifications before submitting the bids.
- Pre-Bid meeting will be attended by representative from Civil Department, Purchase, HR and Accounts from BEML Palakkad.
- Any modification of the Bidding documents which may become necessary as a result of the pre-bid queries, shall be made by BEML and the same will be hosted on SRM Portal.
- Clarifications to the bidders' queries and all Corrigenda, Addenda, Amendments, Clarifications etc. if any to the tender, will be hosted on SRM Portal only.
- Bidders should regularly visit SRM Portal to keep themselves updated.
- No separate advertisement shall be published in the Newspaper in this regard & no bidder will be individually/separately informed of the same.
- Before the dead-line for submission of Bids, BEML may modify the Bidding documents.
- All Corrigenda, Addenda, Amendments, Clarifications, etc., if any thus issued shall be part of the Bidding documents. Prospective Bidders shall sign the same with seal and upload as a part technical bid.

SCHEDULE OF EVENTS:

Sl. No	Particulars	Date	Remarks
1	Floating of e-tender in SRM Portal	20.12.2024	
2	Last date for forwarding Queries if any, for clarification during Pre-bid meeting	07.01.2025	17.00 Hrs
3	Pre-bid meeting	08.01.2025	11.00 Hrs
4	Last date for submission of bids through SRM	03.02.2025	17.00 Hrs
5	Opening of Technical bids	03.02.2025	17.30 Hrs

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Bid invitation No: 6300039258**Closing Date: 03/02/2025****Other Terms related to Tender:**

- 1) The company does not bind itself to accept the lowest or any other tender.
- 2) The tender shall remain open for acceptance for a period of **90 days** from the date of opening of tenders.
- 3) The intended bidders may visit the site and acquaint themselves with the conditions of the site prior to submission of tenders and no claims will be entertained later on the grounds of ignorance.
- 4) The successful bidder is required to sign the work order prepared based on the quoted rates placed on him by the Accepting Officer.
- 5) The Accepting Officer reserves the right to place order as a whole or part of any item only as deemed fit.
- 6) In case, the Successful consultant/firm after quoting withdraw from the tender or refuse / delay in commencing the work or stop the work abruptly, their EMD will be forfeited.
- 7) Bidders exempted from Earnest Money Deposit (EMD) shall submit exemption certificate from Competent Authority.

Conditional tenders are liable to be rejected.

Thanking you

Yours faithfully,

for BEML Limited

-Sd/-

The General Manager,
Material Management
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04. GENERAL CONDITIONS:

(UNDER WHICH THE WORKS HEREINAFTER DESCRIBED ARE TO BE PERFORMED)

1. INTERPRETATION CLAUSE:

In these General Conditions and the Specifications attached, the word 'COMPANY' shall be held to mean 'BEML LIMITED', the work 'CONTRACTOR' shall be held to mean one or more contractor or contractors jointly or generally engaged in the works to which these General Conditions and the specifications relate, and shall include his/their heirs, executors and administrators. The word 'ENGINEER-IN-CHARGE, shall be held to mean a Member of the staff of the BEML to supervise the work. The expression 'SITE OF WORKS, shall be held to mean the extent of land which the Company places at the disposal of the Contractor from time to time for the purpose of executing the contract works. The word 'DRAWINGS' shall be held to mean 'THE PLANS, SECTIONS, ELEVATIONS AND DETAILS OF WORKS' annexed to the contract and such further drawings, as the Engineer in charge may issue from time to time during the progress of the works and shall be held to include tracings and photographic prints. The word SPECIFICATIONS shall be held to include the tender General Conditions, Specifications, Schedule of Prices and Bill of Quantities.

2. SUFFICIENCY OF PRICED BILL OF QUANTITIES AND TENDER:

On the acceptance of this tender, the contractor shall forthwith satisfy himself as to the correctness and sufficiency of his tender for the works as well as all prices stated in the Bill of Quantities and the schedule of Prices and within SEVEN DAYS of the acceptance of his tender, he shall sign the contract which shall be construed and taken as an acknowledgement on his part of his complete satisfaction and acquiescence in the sufficiency of the prices. The amount of the tender shall be the sum at which the contractor engages to execute whole of the works set-forth in the Bill of Quantities, the contractor shall submit to the company, with his tender both Schedule of Prices and Bill of Quantities upon which the tender has been based fully and completely priced. Items left unpriced in the bill of Quantities shall be held to be included in the prices for other items of the work.

3. CONTRACTOR TO EXECUTE CONTRACT WITH THE COMPANY:

The successful contractor shall within SEVEN DAYS of the acceptance of his tender enter into and execute a formal indenture of contract to be prepared by the Company's Solicitor. The contractor shall not be entitled to make any charges for perusal of the contract.

4. CONTRACT NOT TO BE ASSIGNED OR UNDERLET AND CONSEQUENCE OF GRATUITIES BEING GIVEN:

The contractor shall not assign or make over the contract to any other person, or underlet it, or make a sub-contract with any workmen or workman for the execution of any part of work(s), but shall employ his own workmen for the labour thereof, who shall be paid by him in wages by the day. And in case the Contractor assigns or makes over the contract, or

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underlet or make sub-contract, contrary to this clause or either himself or his agents give any gratuity to any employee of the Company, the company shall be at liberty to terminate the contract.

5. TENDER OR AGREED RATE:

The contractor shall agree not to petition for revision of rates tendered for by him under any circumstances at any stage of the work, either during execution or when the final claims are settled.

6. In the event of anything evidently necessary to the due and complete performance of the works being omitted to be shown on the drawings or described in the specification or being omitted from the Bill of Quantities through oversight or error, the contractor shall, notwithstanding, execute (in the most perfect manner) all such works the same as if they had been severally shown, described and included without being entitled to make any extra claim or charge.

7. The contractor shall satisfy himself or shall be deemed to have satisfied himself as to the nature of the sub-soil, the three dimensions, levels, character and nature of all roads, existing drains, sewers, water, gas or other mains, electric cables and other things as regards any connection they may have with the works the subject of the contract, and he shall also inspect the site of the works and surroundings, the means of access there to and egress therefrom and shall generally obtain his own information on all matters and things which can in any manner influence his tender, No claims for extra works otherwise will be allowed in consequence of any misunderstandings, error or incorrect information on these points, or of any other in-accuracies in reference thereto, which may appear on the drawings, or in the specification, nor shall the contract be nullified in consequence of any such misunderstanding, error incorrect information or in-accuracies.

8. ENGINEER IN CHARGE'S ORDERS TO COMMENCE WORKS AND AS TO NON-DELIVERY OF SITE:

The Contractor having signed the contract, the Chief Engineer will forthwith give him notice to commence the works and the contractor shall upon receipt of such notice, commence the works and carry them on at such point and points and in such portions as the Engineer in charge may direct.

The Company shall, with the Engineer in charge written order to commence the works, give to the contractor, the use of so much of the site of works, as may in the opinion of the Chief Engineer be required in order to enable the contractor to commence and continue the construction of the works, and shall from time to time as works proceed give the contractor the use of such further portions of such site as the Engineer in charge may from time to time consider proper in that behalf, but the non-delivery in manner aforesaid of the use of such site or any portion thereof shall not vitiate or affect the contract, nor any provision contained in the specification nor entitle the contractor to any increased allowance in respect of money.

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The Contractor shall set out the whole of the works and be responsible for the correctness of the position, levels and dimensions of the several works, according to the drawings and written instructions of the Engineer in charge. If at any time during the progress of the works any error shall appear or arise in the position, levels or dimensions of the several works, the contractors on being required to do so by the Engineer in charge, shall at his own expense remove and amend the works to the satisfaction of the Engineer in charge, notwithstanding that he may have been assisted by Engineer-In-Charge in setting out the same. The contractor shall observe, perform and comply with the requirements of all statutes and byelaws and shall also serve notice on the authorities having control of the road surfaces before the same are broken up and he shall likewise serve notices on the owners of the sewers, drains, water, gas or other mains, electric cables and other things which may be in any way affected by the execution of the contract work.

10. TIME OF WORKING (APPLIES ONLY FOR FACTORY AREA):

As the entry and exit of the workmen into the factory area is controlled by the Security Authorities of the Factory, the contractor should strictly adhere to the timings of entry and exit, laid down by the authorities and the rates quoted are deemed to include for this provision.

11. NIGHT WORKS:

The works shall be carried on day and night continuously without extra charge. If bad or treacherous ground be met with or if there be any other causes whatsoever, which in the judgment of the Engineer-In-Charge, requires, it, but no work shall be carried on in the night without the knowledge and sanction of the Engineer-in-charge.

12. WATCHMEN, LIGHTS, ETC., TO BE PROVIDED BY THE CONTRACTOR:

The Contractor, shall at his own cost provide night watchmen to all parts of the work where necessary required by the Engineer-in-Charge, He shall also keep all open trenches, excavation or other dangerous places properly and sufficiently lighted between sunset and sunrise, and shall provide and fix proper fencings and boarding and temporary bridges to protect and assist the public traffic. The contractor shall also at his own cost erect temporary fences on the site of works where required by the Engineer-in-charge.

13. TEST MATERIALS:

All the materials to be used in and on every part of the works shall be subjected from time to time to such tests as the Consultant and Engineer in charge may direct. Such tests shall be performed at the expense of the contractor but the Company shall refund to the Contractor the actual cost of testing any of the materials which are proved to conform with the conditions of the specifications but the samples shall be, in all cases, selected by the

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Engineer in charge, and supplied by the contractor as part of the contract. If, at any time, any materials so tested is not equal to the test for such materials, hereinafter specified, the same shall be removed from the site of works, and other materials substituted therefor, but in the absence of any specified test, the decision of the Engineer in charge, shall be final as to whether the said material or materials shall be used in the works, or forthwith removed and other materials substituted.

14. MATERIALS, TOOLS ETC., BROUGHT ON TO WORKS TO BECOME PROPERTY OF COMPANY DURING CONTINUANCE OF CONTRACT:

All materials, tools, implements and other things brought by the Contractor upon Company's works shall there upon become and shall continue to be the absolute property of the Company and be considered in its possession, the Contractor having only the right of using the same for the purpose of the contract. After the works have been completed and all obligations under the contract duly fulfilled, the Company shall return to the Contractor the tools, implements and surplus or waste materials then remaining upon the Company's works to be removed by him forth-with and cleared away. Nevertheless, the Company shall not at any time be liable for the loss of any of the said materials, tools, implements or other things but the whole of this liability shall fall upon the Contractor, the same as if they had remained in his possession.

15. POWER TO VARY WORKS:

The Company shall have full power and authority from time to time, and at all times, to order works additional to the contract, and to make and issue such further drawings and to give such further instructions and direction as may appear necessary or proper for the guidance of the contractor and the good and sufficient execution of the contract, and the contractor shall receive, execute, obey and be bound by the said further drawings, instruction and directions, according to the true intent and meaning thereof and as fully and effectively as though they had accompanied, or had been mentioned or referred to in the original drawings and specifications. The company shall also have power to vary or alter the levels or position of any of the works, the subject of this contract, or may order any of the works contemplated thereby to be omitted with or without the substitution, of any other works in lieu thereof, or may order any work, or any portion of work executed or partly executed, to be removed, changed or altered, and if needed that other work shall be substituted in lieu thereof and the difference of expense occasioned by any such increase, diminution or alterations so ordered and directed shall be added to or deducted from the amount of the contract agreeable to the prices for similar works set forth in the Bill of Quantities, or failing which the Schedule of Prices attached hereto, and in the absence of any such similar work being scheduled, the Engineer in charge shall determine the amount to be paid for such additions or deductions. The company will in no case become liable to the payment of any charge in respect of any such conditions, alteration or deviations, unless the instructions for the performance of the same shall have been given in writing and signed by the Engineer in charge, nor unless such instructions distinctly states that the matter thereof is to be subject of an extra or varied charge, in the form of an order hereinafter set forth nor

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unless the claim thereof shall be made in writing, signed by the Contractor and in the form of claim herein as set forth and properly filled up nor unless such claim be made within the week in which the work is executed and materials used, and before the same shall have been placed out of view, or beyond check of measurement, nor unless the value of any altered or varied works, or any further works shall wherever practicable have been determined and settled before such altered, varied or further works shall have been commenced. Such value in case of dispute shall be ascertained by the Engineer in charge, who shall determine in all cases whether such previous determination and settlements were practicable or not, and in all the cases where he shall consider the same to have been practicable, the contractor shall not be entitled to make any claim in respect of such altered, or varied or further works if it shall, in the opinion of the Engineer in charge, if any special instance become necessary to execute any additional or substituted work, either wholly or in part by the day the claim therefor, shall not be recognized unless the contractor shall have delivered to the Engineer-in-charge, within one working day, and so on from day to day a true and exact list of the name, occupations, time and wages of the several workmen engaged during the previous day on any and every such works in respect of when a charge 'BY THE DAY' is intended to be made in the next succeeding weekly claim of contractor, Nevertheless, no charge 'BY THE DAY' shall be made unless, in the opinion of the Engineer in charge, it is impracticable or unreasonable to determine the value of the amount of work in manner otherwise provided for in these general conditions. All such instruction given by the Engineer in charge, shall be in the following form or as near there to as may be:

ORDER No:

CONTRACT No.

In pursuance of Clause-15 of the General Conditions of contract and subject as there in mentioned, we request you to perform the under mentioned at the under mentioned price, namely:

SUCH WORK BEING IN	ADDITIONAL TO SUBSTITUTION FOR	WORK INCLUDED IN THE
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tender, and we request you to omit the under mentioned work at the under mentioned prices, viz.

DATE:

SIGNATURE OF THE ENGINEER-IN-CHARGE.

AND every claim shall be made in the following form:

CLAIM No: _____ CONTRACT No. _____

Contractors claim under and subject to Clause-18 of the General Conditions of Contract for the week ended Saturday the _____ day of _____ in respect of other than contract work.

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Work Claimed For		Number Of Engineer's Order	Price of Similar Work in Bill of Quantity of Schedule.		Where no Similar Work in Bill of Quantity of Schedule.	Amount claimed Rs.
Qty in Mtrs.	Des-crip-tion.		Number/ Number of items	Value of Item.	Schedule Price of Labour.	

DATE:

SIGNATURE OF THE CONTRACTOR 'S

The claim shall be delivered to the Engineer-in-charge , for his examination before being transmitted by him to the Chief Engineer and shall be subject in all respect to the consideration, ratification and correction of the Chief Engineer who shall be at liberty to decide whether any such claim entitle the Contractor to any, and if so, what extra charges, according to the true meaning and intention of the specifications, and whether any and what allowance shall be made to the company in respect of any work or obligation to be performed under the contract and from the performance of which the contractor may be or become directly or consequently relived by reasons of any such additional or substituted works.

16. SUSPENSION OF WORK:

The Contractor(s) shall suspend the execution of work or any part or parts thereof whenever called upon in writing by the Chief Engineer to do so and shall not resume work thereon until so directed in writing by the Chief Engineer. The Contractor will be allowed by the Chief Engineer an Extension of time (not less than the period of suspension) for completion of the item or group of items of work for which a separate period of completion is given in the contract and of which the suspended work forms part but not other claims in this respect for completion or otherwise, however, shall be admitted. The contractors shall have no claim to any payment of compensation or otherwise, whatsoever on account of suspension of work.

17. WORKS TO BE EXECUTED IN APPROVED MANNER:

The works, the subject of the contract, specified and provided for or that they may be necessary to be done to form and complete any part thereof, shall be executed and completed in the best substantial manner, with materials of the best and most approved quality of their respective kinds agreeable to the particulars contained in or implied by the specification or as referred to and represented by the drawings and memoranda thereon or as referred to by any of the said further drawings and memoranda thereon or as referred to by any of the said further drawings, instructions and directions and shall be to the full satisfaction of the Engineer in charge ,. The Engineer in charge, shall have full liberty at all reasonable time to inspect and examine the works, materials and workmanship, and may every such time reject any or all of such works, materials and workmanship which to

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him/them or either of them may appear defective, unfit or improper for the several purposes to which they are applied, or intended to be applied, or as not in accordance with the specification or the said drawings, memoranda, instruction or directions respectively.

18. WORK TO BE CARRIED ON WITH EXPEDITION FAILING WHICH THE COMPANY MAY EMPLOY OTHER CONTRACTOR WITHOUT VITIATING THE CONTRACT:

The Contractor shall commence to carry on the works with due diligence, and as such expedition as the Engineer in charge, may reasonably expect, having regard to the specified time of completion of the whole of the works. In case the contractor fails to do so, or neglect to provide proper and sufficient materials, or to employ a sufficient number of workmen to execute the work, then the company shall have full power, without vitiating the contract, to take the works wholly or in part out the hands of the contractor to engage or employ any other person or workmen to procure all requisite materials and implements for the due execution and completion of the said works, and the cost and charges incurred by the company in so doing shall be ascertained by the Chief Engineer and be paid for or allowed to the company by the contractor and it shall be competent for the Company to deduct the amount of such costs and charges along with overheads out of any sum or sums due or to become due from the company to the contractor under this or any other contract.

19. INFERIOR MATERIALS OR WORKMANSHIP TO BE AMENDED:

The materials as well as the workmanship and finish of the whole of the contract works shall be best of their kind and should any materials be brought upon the site of works or on any land or property of the company or on the places where the operations are being carried out in connection with the works, which in the judgment of the Engineer in charge, is of an inferior description and improper to be used in works, the said materials shall be removed. All inferior workmanship or finish shall be amended by and at the cost of the contractor forthwith, or within such period or periods as the Engineer in charge, may direct, and the contractor shall pull down, amend and reconstruct any work he may have erected upon an insecure or insufficient foundation or that he may have insufficiently secured and protected against immediate and future injuries, whether arising or likely to arise in future from weight, pressure action of water or otherwise, on being required to do so by the Engineer in charge. In case the contractor neglects or refuses to remove such materials or comply with such directions it shall be lawful for the Chief Engineer, on behalf of the company and by its agents, servants and workmen to remove the materials and amend the workmanship and finish, so objected, to, or any part thereof, and to replace the same with such other materials, workmanship and finish as shall be satisfactory to the company and on the certificate of the Chief Engineer to deduct the expense thereby incurred, or to which the company may be put or be liable or which may be incidental thereto, from the amount of any sum or sums due to or become due to contractor, or to recover the same by action at law or otherwise from the contractor as the company may determine.

When it is apparent to the Chief Engineer that defects exists in the work, or that damage or accident has occurred to the works, or that the works are not upheld or maintained in good

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sound and water tight conditions, or repair or in working order, but the cause thereof is not apparent, a general requisition in writing by the Chief Engineer to the contractor to amend, make good or maintain the works in sound, perfect and water tight conditions shall be under no obligation to specify the work or repair, but such requisition shall be conclusive evidence against the contractor that he is not performing his obligations under the contract.

20. EMERGENCY POWERS:

In the event of any accident or failure occurring in or on the works, which, in the opinion of the Chief Engineer requires immediate attention either during construction or during the period of maintenance the company may by their own or other workmen make necessary repairs at the expenses of the contractor.

21. OPENING TO BE MADE FOR EXAMINATION OF WORKS:

Should Engineer-in-charge require it for their more perfect satisfaction, the contractor shall at any period during the continuance of the contract, pull down any part of the work and make such openings, as to such extent through any part of the said work as the Engineer-in-charge, may direct and the contractor shall make such works good again to his or their satisfaction. Should the work be found faulty in any respect, the whole of the expenses thereby incurred shall be defrayed by the contractor but if otherwise by the company.

22. PRECAUTIONS AGAINST INJURY TO PROPERTY ADJACENT TO THE WORK IN PROGRESS:

The contractor shall take special care, by the erection of temporary fences and by every other means which circumstances may render necessary, to prevent all injury and damage to or trespass upon the lands, roads, fences or property adjacent to the site of works and shall confine the passage of his workmen to existing public roads, foot paths. He shall likewise pay and satisfy all claims whatsoever and from whomsoever, for temporary occupation, way-leaves, damages, the trespass or otherwise, in reference to the said lands, roads, fences and property adjacent and bear the company harmless from any and all such claims. If any greater extent of land than the site of work be required by the contractor for his operations, he shall obtain and occupy the same at his own cost and charge.

23. PRECAUTIONS AGAINST ACCIDENTS OR INJURY:

The Contractor shall, at his own expense, shore, sling, protect, support, alter, restore make good and maintain as may be necessary, all buildings, water and gas pipes, sewers, drains, electric cables and other things which may be disturbed, exposed or injured during the execution of works or in consequence of the execution of the works and shall also provide any extra timbering which may be temporarily required and all labour in fixing and removing the same and shall, at his own expenses provide for the continuous use of all buildings, pipes, sewers, drains electric cable, water sources and other things, the use of which may be liable to interruption during the progress of the work. The Contractor shall at his own expense restore all such buildings, water and gas pipes, sewers, drains, electric cables and

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other things to the satisfaction of the owners thereof and he shall likewise, at his own expense, construct and maintain such works as may be necessary for the due permanent support of all such buildings, pipe, sewers, drains, electric cables and other things met with in the construction of works, and shall indemnify, save, harmless and keep indemnified, the Company and its officers from and against all action, suits, claims, penalties, liabilities, cost, expenses and demands whatsoever, by reasons or on account of damage to such buildings, pipes, sewers, drains, electric cables and other things whether caused by the execution of the contract works or in the insufficiency of the aforesaid permanent support. The Company may deduct the expenses thereby incurred or to which the Company or its Officers may thereby be put or be liable or which may be incidental thereto from, the amount of any sum or sums due or to become due to the contractor or may recover the same by action at law or otherwise from the contractor and the Company may compromise any such action suits or other proceedings, or such terms as it shall see fit and contractor shall thereupon forthwith pay the Company the sum or sums paid by the Company upon the occasion thereof, and shall in every case pay such sum or sums as shall fully indemnify the Company according to the present stipulation.

24. COVERING OF CONSTRUCTION SITE:

The Contractor shall, at his own expense, make arrangements to cover/wrap the construction site in mesh material of green color to prevent the dust from the escaping into the adjoining Properties or premises and atmosphere and also to prevent accidental fall of debris onto the people. The contractor at his own expense should make arrangements to remove the cover after completion of the work.

25. ROYALTIES:

The Contractor shall be liable to pay all royalties chargeable on Government or Company materials required for the work.

26. REJECTED MATERIALS:

All rejected materials will at once be removed from site by the contractor to such distance as may be desired, failing which the company after giving three days' notice in writing may do so and recover the cost of removal from the contractor.

27. COMPANY'S PLANT:

No Company's plant, materials or Labour will ordinarily be lent or hired to the contractor. Exceptional cases must have the approval of the company in writing.

28. SCOPE OF COMPLETION:

Completion includes completion of all work in accordance with the plans and specifications, removal of all yard mess accumulated during construction, levelling and cleaning up the site and generally cleaning the whole building or works.

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The final measurement must invariably be preceded by a thorough remeasurement of the whole of the work, performed which will be made by the company's authorized representative and at which the contractor or his accredited agent must be present. For this purpose, a written notice will be sent to him at least THREE DAYS before the date fixed for the measurements, appointing the day, hour and place of meeting. Should he not attend to this the measurements will proceed without him, and he will be precluded from making any protest.

- 30.** If a dispute arises between the company and contractor as to the quantity or quality of work, performed, involving sum larger than Rs.500.00, the contractor may appeal in writing to the company for remeasurement or reappraisal, as the case may be. If the company considers that Contractors claim is valid, they may appoint an officer, other than the Officer who made the final measurement and inspection vide Paragraph-28 above, and his report shall be considered as final and binding on the contractor. The Contractor shall have a representative present when the remeasurement or the appraisal is being made.

31. ATTENTION:

- a) Time will be the essence of the contract and the contractor is to complete the whole of the work in the time stated in the tender, subject to the schedule of conditions.
- b) The contractor is to provide at all times during the progress of work and the maintenance period proper means of access, with ladders, gangways, etc., and the necessary attendance to move and adopt as directed for the inspection of their representative (no separate rate will be allowed).
- c) The Contractor is to keep all persons under his control and within the boundaries of the site and he will be held responsible for the care of the works generally until their completion including all works executed and materials deposited in the sites by himself or suppliers, together with all risks arising from weather, carelessness of operatives, damages or loss by thefts or by any other cause, and is to allow for all necessary watching and protective lighting.

32. LABOUR ACTS:

- a) The Contractors shall employ labour in sufficient number to achieve the required rates of progress and quality to ensure best workmanship of the degree required under various specifications and to the satisfaction of Engineer-in-charge. The contractors shall remain liable for the payment of all wages or other remunerations to his labourers or employees under the Payment of Wages Act 1936, Minimum Wages Act 1948, Employers liability Act 1938, Workmen's Compensation Act 1923, ESI Act 1948, The Building & other Construction Workers Act, 1996, The Inter-State Migrant Workmen (Regulation Of Employment And Conditions Of Service) Act, 1979 or any other Acts or enactments relating thereto and rules

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framed there under from time to time. In the event, the contractor fails or neglects to pay any amount due by him under the workman's compensation Act, ESI Act or other Labour Laws, the Company is entitled to withhold the same from any other amount payable by it to the contractor and remit the same to the authority concerned and such payment shall be binding on the contractor.

- b) In the event of contract, the contractor shall be responsible for implementing the provision of the contractor Labour Act in to and also responsible for any repercussions arising there from for non-compliance thereof.
- c) The intending tenderers should quote their organization registration/code numbers for the registration with ESI and PF Authorities. It may be noted that other things being equal, preference will be given in the acceptance of tender to firms having independent registration with ESI and PF Authorities.
- d) BEML shall arrange to recover from the contractors bills requisite amounts of both Employer's and Employee's contribution for both ESI and PF calculated on the basis of 25% of the value being taken as the labour cost and recover such amounts from the respective bills and keep the same in suspense account. On production of requisite documentary evidence supporting payment of ESI and PF Authorities/supported by the acquaintance rills, the amount earlier recovered from contractor's bills shall be paid duly adjusting the shortfall in remittance, if any.
- e) In the event of any accident/injury/disablement, the contractor shall arrange to pay the requisite compensation legally payable to the concerned employee/dependents and also indemnify to BEML in case of any claim arising therefore later.
- f) CONTRACTOR should employ only ESI Registered workmen on any item of work. If contractors have workman who have not yet been Registered under the ESI they should ensure that the workers have been duly registered before employing them in work.
- g) CONTRACTORS should produce his MUSTER ROLL duly certified by Engineer-in-charge once in a month say before 5th of each month to the Pay roll section, so that the ESI amount can be ascertained and recovered/payment obtained irrespective of the fact whether work order is issued or not.
- h) If there is any default on the part of the contractor, an estimated amount towards ESI liability including the would-be penalty/damage, will be recovered by the company from the bills of the contractors.
- i) CONTRACTORS should maintain all registers and records required for ESI, PF Payment of wages, etc., under the statutes and produce them for verification as and when called for by company inspecting Authorities.
- j) THE contractor shall disperse the wages to the workmen in the presence of the authorized representative of the company.

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- k) CONTRACT Labour (Regulation and Abolition) Act 1970 under section 12 and Rule 21 prescribes that every contractor who employs labour for executing contract works should obtain license from Labour Authorities to carry out any works contract, so that the labourers employed by the contractor are not deprived of the facilities provided under the Act. Such license shall be produced to BEML Authority before commencement of the work.

33. TRAINING APPRENTICES:

The CONTRACTOR shall comply with the provision of the Apprentices Act 1961 and the rules and order issued there under from time to time. If he fails to do so his failure will be a breach of contract and the Accepting Officer may in his discretion cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provision of the Act.

34. FAIR WAGES:

The Contractor shall not pay less than fair wage to labourers, workmen engaged by him on the work. Fair wages means wage for the various categories of labour, workmen, fixed from time to time by the labour authorities of the area. The contractor shall ascertain the minimum fair wages prevailing in the area before submitting his tender. The Contractor should also abide by labour regulations in regard to the payment of wages, wage period, fines and deductions from wages, maintenance of wage book, wage slip, publication of scales of wage and other terms of employment, inspection and submission of periodical returns and all other matter relating to labour rule in force.

35. DISPUTE RESOLUTION AND JURISDICTION:

All disputes or differences whatsoever arising between the parties out of or relating to the construction, meaning and operation or effect of the contract or the breach thereof arising during the progress of work or after completion or abandonment thereof shall be mutually discussed and settled amicably by conciliation Committees/ Councils comprising of independent subject experts constituted by BEML, failing which, the dispute shall be settled by arbitration consisting of sole arbitrator appointed by the Company in accordance with the provisions of Arbitration and Conciliation Act 1996 and the arbitration proceedings shall be conducted at Bengaluru.

The court at Bengaluru only shall have jurisdiction to entertain any dispute/matter relating to the contract

In case of any dispute between the Company and any other Public Sector / Government department relating to the interpretation and application of the provisions of the contract, such disputes / differences shall be referred by either party to the arbitration of one of the arbitrators in the Department of Public Enterprises. The Arbitration and Conciliation Act,

(A Government of India Mini Ratna Company under Ministry of Defence)
Kinfra Wise Park, Kanjikode, Palakkad – 678621, Telephone: 0491-2568178

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1996 and amendment thereof shall not be applicable to this clause. Any party aggrieved by such award, shall make further reference to the Ministry of Law and Justice, Government of India.

In case BEML challenges the Arbitral Award passed against it, 75% of the award may be paid to the contractor / concessionaire against Bank Guarantee without prejudice to the final order of the Court in the matter under challenge. The payment may be made into a designated Escrow Account with the stipulation that the amount so released will be used, first, for payment of lenders' dues, second, for completion of the project and then for completion of other projects of BEML, as mutually agreed / decided. Any balance remaining in the Escrow Account subsequent to settlement of lenders' dues and completion of projects of BEML, may be allowed to be used by the contractor / concessionaire with the prior approval of the lead banker and BEML.

In case the subsequent court order required refund of the money paid by BEML to the contractor / concessionaire against Bank Guarantee, the amount shall be refunded by the contractor / concessionaire along with appropriate interest. The rate of interest on such refund amount shall be decided by BEML keeping in view the cost of capital to BEML or the rate of interest provided for in the Contract Agreement or the rate of interest awarded under the Arbitral Award under challenge

General conditions stated under Clause 1 to 35 are fully read and are acceptable to me/us.:

DATE:

SIGNATURE OF THE CONTRACTOR 'S

BEML LIMITED

(A Government of India Mini Ratna Company under Ministry of Defence)
 Kinfra Wise Park, Kanjikode, Palakkad – 678621, Telephone: 0491-2568178

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05. SPECIAL CONDITIONS:

1. The tender shall remain open for acceptance for a period of 90 days from the date on which the tenders are due to be submitted.
2. The contractor shall visit the site to acquaint himself with site conditions and study the drawings and specifications in detail prior to tendering, and no claims will be entertained later on the ground of ignorance or otherwise of the conditions under which the work shall have to be executed.
3. The contractor shall either himself supervise the execution of the contract or shall appoint competent and experienced engineers on his own for supervision of the work. Where the contractor is not a qualified engineer or even if he is so qualified but in the opinion of the accepting authority, cannot give full attention to the works, the contractor shall at his own expense employ adequate Engineers, as indicated in manpower deployment schedule, to supervise the work and to receive instructions from the Engineer-in-charge. The employment of engineers as aforesaid shall be with the approval of the Engineer-in-charge who may verify the qualifications/experience required for timely completion of work.

The proposed minimum engineers shall be under:

Project manager- 1 no	Civil engineering Degree holder with over 10-15 years of practical experience for works of similar nature.
Site engineer CIVIL -1 no	Civil / Mechanical/ Electrical engineering Degree holder with over 3-5 years of practical experience for works of similar nature.
Site engineer Electrical / Mechanical - 1 no	Mechanical/ Electrical engineering Degree holder with over 3-5 years of practical experience for works of similar nature.
Quality control Engineer -1 no	Civil engineering Degree holder with over 3-5 years of practical experience for works of similar nature.
Safety officer -1 no	Diploma in industrial safety with 1-3 years of OHS experience in any industry or construction field.

They shall be further supported by a team of Junior engineers and supervisors as per requirements at site as directed by Engineer-in-charge.

Penalty for non-compliance of required manpower is as follows:-

Project manager -Rs 40,000/- per month

Site Engineer, Quality control Engineer , Safety engineer - Rs 30,000/- per month

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4. The setting of the building shall be done by the contractor himself . All measurements shall comply with the dimensions noted on the drawings. The contractor shall construct centre line pillars and Bench Marks wherever necessary at his own cost and the setting out/ marking shall be done using TOTAL STATION / GDPS instrument only checked which will be approved and certified by the Engineer-in-charge before execution of the work.
5. Foundations shall generally conform to the dimension indicated on the drawings, unless the nature of soil after excavation examined by the Engineer-in-charge of works necessitates modifications. The foundation trenches for RCC columns and walls after excavation indicated on the drawing shall be got inspected, approved and certificated by the Engineer-in-charge of works before laying concrete.
6. Provision shall be made during the progress of work for embedding Electric conduits etc., wherever necessary as directed. Openings shall be left for service lines, machine foundations, as required and as per instructions of the Engineer-in-charge.
7. Care shall be taken in execution of work not to damage service lines etc., coming in the way of construction. If any damage is caused in the lines, the cost of replacing or repairs shall be borne by the contractor.
8. CONTRACTOR(S) shall provide himself/themselves with requisite number of welding sets, mixers with hoppers, vibrators builders hoist, Tools, meters and testing equipment's, transport vehicles, etc., required for the complete satisfactory execution of work.
9. **WATER:**
Contractor shall make his own arrangements for water supply & storage facility for the work. Digging borewells inside the BEML premises is prohibited as per company policy. Water used whether in the process of making materials or in the execution of the work or for cleaning, etc. shall be clean and fresh, and free from deleterious matter.
10. **POWER SUPPLY TO THE CONTRACTORS:**
Contractor shall make his own arrangements for electrical Power for the subject construction work with necessary safety precautions & compliance as per the statutory requirements.
11. **Submittals and Cost of Tests:**
On commencement of the Project, the Contractor shall submit the following to the Engineer in Charge: -
Detailed Baseline Programme stating the various activities along and the time for completion of each activity. Results of any tests, as and when conducted and as required by the Engineer in Charge. All tests shall be carried out at the contractor's cost.
12. **MATERIAL AND WORK MANSHIP: GENERAL**

a) This Materials and Workmanship Specification for Track work shall be read in conjunction with all the documents forming part of the Contract.

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- b) No Permanent Works shall be carried out until all methods and materials have been approved by the Engineer in charge.
- c) Unless noted otherwise in the Contract, all components and materials shall be handled, transported and stored, in accordance with the manufacturer's recommendations with prior approval of Engineer.
- d) The test results of each test to be carried out as per Employer's requirement shall be recorded and submitted in a format approved by the Engineer and shall include graphical presentation of results as well as numerical base data wherever required.
- e) All drawings, records, reports, documents, Performa etc. shall be submitted in both hard copy and electronic copy.
- f) Work and Workmanship Guarantee Compliance of entire Provisions is obligatory to Contactor
- g) The Contractor must maintain the record of principal raw material which will be verified by Civil Department (for example cement register). All incoming documents must be submitted by the contractor with appropriate BEML gate entry details (CMR entry number) without fail.
- h) The contractor has to ensure the rational utilization of the raw material used for the construction work. The necessary documents for the same to be produced along with the running bills.

13. **SURVEY INSTRUMENTS**

- a) Survey instruments like Total station / DGPS / Dumpy level only used and the methodology adopted shall be appropriate to the intended measurement task and accuracy specifications. Test measurements and instrument calibration shall be carried under local field conditions.
- b) It is essential that before starting any initial surveys and at frequent intervals all measuring equipment should be tested for their accuracy.
- c) All instruments deployed in the Contract shall be in good condition and properly calibrated.
- d) Calibration certificates and/or statements of services by local authorized instrument agents of not more than six months shall be the proof that the instruments are in good service conditions.
- e) Notwithstanding the above, instruments shall again be checked to ensure good condition before the Contractor proceeds to carry out a critical survey task. Any error causing superfluous work will have to be rectified by the contractor at his own cost.

14. **SPECIAL INSTRUCTION.**

All construction materials used in the contract shall be get approved from concerned engineer in charge.

15. **TAXES:**

WHATEVER Taxes and duties, as applicable, chargeable in respect of this contract whether

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by the Central or State Government shall be borne by the contractor(s) and the price quoted in bid should be basic price separately and taxes, cess or any other statutory duties or taxes payable by them to be mentioned as applicable. WHEREVER Taxes are deductible at source, the company will recover the amount as per the statutory requirement.

16. THE Contractor shall agree to execute the work progressively in co-ordination with the concerned officers or shop supervisors and as directed by Engineer-in-charge.
17. THE specifications contained in the MES Schedule (referred to in the tender) in appropriate sections shall apply to this contract to the extent applicable, cement co-efficient shall also form part of MES Schedule.

18. **VALUATION OF DEVIATIONS:**

Every deviation shall be subject to the limits specified as under:

- a) The net value of all deviations (additions and deductions) including non-tendered items, of the value of work completed, shall not exceed 20% of the approved contract value and 40% in respect of any individual item, indicated in Schedule A-BOQ
- b) In case of non-tendered items, the total value of such non-tendered items shall not exceed 5% of the approved contract value.

The basis for ascertaining the non-tendered items shall be as follows:

- a) The value of all deviations shall be ascertained by measurements, on the basis of the rates or prices for similar work in the bill of quantities of the same contract in so far as such rates or prices apply.
- b) Where the rates or prices in Bill of Quantities do not apply, the value shall be based upon rates or prices deduced there from to the extent practicable to do so.
- c) The rates for NT items shall be based on the MES SSR rates after proportionate adjustment in comparison with the tendered rates of like items in the contract. The basis to be adopted for working out the NT rate is the comparison of the NT item with similar trade item in the bill of Quantity for which the contractor has quoted.
- d) wherever NT items cannot be deduced from the like items quoted in the tender or SSR rates, market rate shall be allowed based on vouchers/invoices as per the actual including transportation, labour etc., plus 10% overheads and the labour rate shall be taken as per minimum wages inforce, based on the recommendations of the Chief Engineer.
- e) As a last resort a tender shall be floated to ascertain the rate for NT items. All Deviations in contracts for works including non-tendered items shall be approved by the Competent Authority as per DoP within the limits prescribed in the contract. The deviations and NT items shall be technically checked and

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processed by the respective "Engineer-in-charge " in concurrence with Finance Department of the respective division.

19. **PROVISION OF FITTING/FIXTURES OF DIFFERENT MAKE:**

The contractor shall provide the same make of fittings/fixtures specified in the tender documents unless he has quoted for other equivalent for genuine reasons. In case due to exigency of the work and difficult market conditions, the contractor is not able to provide the same make, he shall be allowed to provide equivalent approved make subject to his obtaining the concurrence of the Chief Engineer for the price adjustment as between the quotation and the purchase price for the item involved. The base for reckoning shall be the date of purchase. The contractor shall produce purchase invoice as a proof of expenditure for the items other than those specified in the tender documents allowed for incorporation in the work. Construction Department in respective Divisions/Regional/District Offices shall ensure the reasonableness of the rate in the purchase bill produced by the contractor. The price adjustment shall be the difference between the two makes on the date of purchase.

20. The Company reserves the right to accept the tender in parts i.e. on the basis of lowest quotation in each part or as a whole, at its own discretion and hence it is important that the tenders take sufficient care and quote reasonable rates in each part, so that if one part only is separated and entrusted to one Contractor he should be able to do it without difficulty. The rates quoted for similar items should be consistent. THE company also reserves the right to accept the lowest or any other tender at its discretion without assigning any reasons whatsoever.

21. **EXTENSION OF TIME:**

Time is the essence of the contract. The contractor is bound to complete the work within the stipulated time. The Chief Engineer has to assess the delay arising out of default of the contractor. Where the delay is due to default of the contractor, and if there is no financial loss due to such delay, the Chief Engineer can recommend for grant of extension of time by the same authority who accepted the tender/awarded the contract, subject to recording the reasons for granting such extension of time.

Where the delay is due to default of the contractor, and if there is a financial loss due to such delay, the extension of time requires the approval of Competent Authority. In the absence of Competent Authority approval, Liquidated Damages for delay in completion of the work shall become enforceable.

Where the delay is not due to default of the contractor, for example: - a) not providing clear work front to the contractor by the Company, b) Company's delay in decision making for changes relating to original work., etc necessary extension of time shall be granted with the approval of Competent Authority, as per DoP without sanctioning escalation claimed by the contractor except statutory levies.

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Extension of time when granted with the approval of the Competent Authority as per Company's Delegation of Powers shall have the effect of rendering the clause 'Liquidated Damages for delay in completion work' inoperative upto the period of extension of time so granted unless otherwise specifically stated.

22. LIQUIDATED DAMAGES FOR DELAY IN COMPLETION OF WORKS

In case the Contractor fails to complete the works and clear the site on or before the stipulated time mentioned in the Work order he shall without prejudice to any other right or remedy of the Company in this behalf pay, as agreed Liquidated Damages and not as penalty, pay sum equal to 0.5% of the Contract sum (excluding non-tendered/extra items, if any) for every week's delay subject to maximum of 10% of the total final bill value of the Contract.

Liquidated Damages shall be applicable in the following cases:

- a) where the contractor fails to complete the work within the stipulated time;
- b) where the extension of time is granted with levy of LD;
- c) Where extension of time is granted without levy of LD but the contractor has failed to complete the work within the extended period.

The amount of Liquidated Damages shall be adjusted or set off against any sum payable to the contractor under this or any other contract/s awarded by the Company.

In case where the contract is subjected to levy of LD, the Chief Engineer shall be the authorized person to issue 'Work Completion Certificate', which shall be final and binding the Company as well as the Contractor concerned.

23. FORE-CLOSURE OF CONTRACT:

It shall be noted that at any time after acceptance of the tender, the Company can decide to abandon or reduce the scope of work for any reason whatsoever, the Chief Engineer shall give notice in writing to that effect to the contractor. The compensation, if any, payable for such foreclosure of work shall be discussed mutually between the Company and the contractor and settled after taking into consideration the loss suffered by the contractor on account of foreclosure of the contract. The contractor shall have no claim for any compensation whatsoever on account of any profit or advantage which he might have derived consequent to foreclosure of the whole or part of the works. The Company shall have the option to take over the contractor's materials or any part thereof, either brought to the site. The amount of compensation payable to the contractor due to foreclosure shall be decided by the authority one level above the level of the authority competent to award the contract, or by the CMD.

- 24.** BEML revised General Conditions together with BEML specifications will form part of the contract. Should there be any discrepancy between the provision in the Bill of quantities and drawings, the former shall be deemed to take precedence there over.

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25. No modification or change of specifications in the bill of quantities shall normally be accepted and such changes are to be rejected. Acceptance of such deviations shall be at the discretion of the Engineer-in-charge.

26. **EARNEST MONEY DEPOSIT:**

TENDERES should submit their tender accompanied by EMD of value indicated in the tender. It should be paid in online mode and proof submitted in SRM. Tender without Earnest money deposit will be rejected. On finalization of the tender, Earnest money deposit will be refunded to unsuccessful tenderers under proper acknowledgement. MSME firms are exempted from EMD and documentary proof to be submitted.

In case, the contractor/firm after quoting, withdraws from the tender or refuse/delay in commencing the work or stop the work abruptly, their EMD/ SD, as the case may be, will be forfeited. No interest amount is payable on EMD.

27. **SECURITY DEPOSIT:**

The successful tenderer shall be required to furnish security deposit for the fulfillment of contract and amount shall be 10% of the value of the contract exclusive of Taxes, to be paid by the contractor. No waiver can be allowed in this regard. Such security deposit shall not entail any interest payment on refund.

The contractor shall choose any one of the following options for payment of security deposit in writing as under:

- a) The contractor shall within 30 days of acceptance of the contract deposit the difference between Earnest Money and full Security Deposit by Demand Draft/Banker's cheque drawn on any of the commercial bank made in favour of Company. PEMD held with BEML cannot be considered for such adjustment in the Security Deposit payable by the contractor.
- b) Bank guarantee from any commercial bank equivalent to the amount of security deposit valid for a period required by BEML shall also be accepted.
- c) Security Deposit amount shall be deducted from the running bills of the contractor at the rate of 10% or higher of the gross value of each bill. However, the entire security deposit amount shall be deducted before completion of 90% of work.

The above deposit shall be held by the Company as security for the satisfactory performance of the contract. All compensations or other sums or money payable by the contractor to the Company under the terms and conditions of this contract shall be deducted from this security deposit or from any other sums that shall be due, or shall become due to the contractor by the Company on any account whatsoever and in the event of the security

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deposit being reduced by reasons of any such deductions the contractor shall within ten days thereafter make good these deductions.

28.1 REFUND OF SECURITY DEPOSIT

The above deposit, as the name itself signifies, shall be held as Security for performance of the contract. One half of the Security Deposit i.e. 50% shall be refunded to the contractor on completion of the contract based on the recommendations of the Chief Engineer in writing that the work has been physically completed in all respects.

The balance 50% of the security deposit shall be refunded to the contractor on written demand from the contractor after the expiry of the DEFECT LIABILITY PERIOD or on payment of final bill whichever is later, with the recommendation of the Chief Engineer, provided the Chief Engineer is satisfied that there are no dues outstanding against the contractor.

If the Security Deposit is in the form of Bank Guarantee, on completion of the contract, the BG already with BEML will be returned to the contractor. The contractor has to then submit a fresh Bank Guarantee for 50% of the security deposit value valid for a period of 1 year from the actual date of completion of the entire contract shall be deposited by the contractor.

Any refund of security deposit shall be made only with the recommendation of the Chief Engineer.

28. RUNNING ACCOUNT REMITTANCE: (RAR)

During the progress of work, contractor shall submit the claims giving complete details of work done, rate and value to the Engineer-in-charge, nominated by Chief Engineer who shall certify the rate and quantity as per the MB and prepare a statement showing the description and quantity for which he recommends payment. These claims are called RAR bills and RAR payments are made once in a calendar month or more depending upon the periodicity of contract/progress of work.

Where the RAR payment is based on the measurements recorded in the MB, the recommendation for payment shall be stage-wise co-related with the bill of quantities.

Due to technical reasons, where pro-rata payments on stage-wise progress of work is considered necessary though not specified in the contract, the Chief Engineer with the approval of competent authority, shall decide the number/type of stages correlating with the bill of quantities and submit a statement showing the stage-wise break-up of the contract value indicating work progress details including percentage of completion, cost, and remarks, if any, of the Engineer-in-charge with a copy to Accounts in the respective Division for regulating the quantity and payment. This shall form the basis for the Engineer-in-charge to prepare a bill for actual progress of work. The basis as decided above shall uniformly be adopted for regulating all RAR payments till the final bill is submitted.

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However, in respect of hidden works, recording of measurements in MB shall invariably be made then and there and the MB produced to Accounts at the time of RAR payment.

Accounts shall arrange payment for RAR bills within a fortnight's time from the date of receipt based on the certification of the Engineer-in-charge and after necessary check/verification.

As per Expenditure Management Commission, Government of India, in large projects above Rs.10.0 Crore, 50% of running bill amount shall be released within 7 days of submission without a detailed check on the claim. The balance shall be released after the claim is scrutinized as per procedure in order to get more competitive bids and for speedy execution as cash flow is a critical requirement in a project.

The contractor shall also be paid 'Material Advance' for the material brought to site for incorporation in the work duly certified by the Engineer-in-charge. For such materials brought inside by the contractor, the contractor has to produce necessary test certificates from reputed Testing Laboratories for steel and hypothecation deed duly executed by the contractor in favour of the Company on a non-judicial stamp paper of requisite value.

Payment of 'Material Advance' shall be recommended by the Engineer-in-charge for materials required to be used in the works as per the planned progress of work. However, payment of material advance against materials brought to site by the contractor ahead of scheduled progress of work shall be considered not exceeding 75% of the value of such material in exceptional cases with the approval of Competent Authority, with justification recorded in writing.

RAR payments shall be regulated to the extent of the value of work done, with due adjustments for recoveries and other payments (including material advance/adhoc payments made if any) effected so far against the contract.

29. **PRE FINAL RARs**

Pre-final RAR is raised only when the work is completed and the complete measurement is recorded in the MBs by the Engineer-in-charge designated by Chief Engineer duly accepted by the contractor.

Pre-final RAR shall be sent to the Accounts Department by the Engineer-in-charge Only after Technical check of the measurements and endorsement in the MBs by the Chief Engineer.

The Engineer-in-charge, shall recommend for payment not exceeding 90% of the value of work completed with due adjustments for recoveries and RAR payments (including Material advance if any) effected so far against the contract.

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Such bills shall be paid within 2 weeks from the date of their receipt in the Finance Department after scrutiny and check for the correctness of the bill duly linking up with the MBs.

The recommendation of Pre-final RAR is based on the discretion of the Chief Engineer on case to case basis.

30. **ADHOC PAYMENTS:**

If payment for final bill could not be arranged within 5 months from the date of the completion of the contract for genuine reasons other than undue delay in submitting the final bill by the contractor, an Adhoc payment not exceeding 90% of the value of the work done after making all necessary deductions for statutory dues, RAR payments, Material advances if any paid, shall be recommended by the Chief Engineer with the approval of respective Complex chief/ respective Business Group Director. Such Adhoc payment can be recommended only if the contractor is having concurrent running contracts in the Complex.

The following guide-lines shall be adopted while making such adhoc payment;

- a) Such payment shall not exceed 90% of the final bill value.
- b) All conditions of contract and recoveries to be effected shall be taken care before effecting Adhoc payment.
- c) If a contractor has no other contract concurrently running in the Complex, adhoc payment need not be made. Instead, final bill shall be expedited and paid atleast within six months from the date of completion of the contract.

31. **COMPLETION CERTIFICATE:**

As soon as the Contractor completes the work assigned to him the same shall be inspected and if found satisfactory shall be taken over by the Chief Engineer. A "Completion Certificate" shall be issued to the contractor within 30 days from the date the contractor has given request for the same. If there are minor defects which can be rectified even after the building has been taken over, the defects shall be listed out and the contractor shall be asked to rectify the same before the final bill is submitted. The final bill along with the completion certificate duly certified by the Engineer in charge, shall be submitted to Finance Department for payment. The completion certificate shall have the following details:

- a) Particulars of the work and Contract Number,
- b) The date of work order to commence the work,
- c) Date of completion as per original contract agreement,
- d) Actual work done value.
- e) Extension of time if any, granted,
- f) Date on which contractor was required to complete the work,
- g) Actual date of completion and taking over by BEML.

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On completion of the work and the recording of measurements in the MBs, a final bill shall be submitted by the contractor. On receipt of the final bill duly signed by the contractor, the same shall be scrutinized by the Engineer-in-charge to see that the claim is in order.

The final bill prepared by the Department and accepted by the contractor, shall be accompanied with the following documents:

- Original Completion certificate
- No claim certificate duly signed by the contractor
- Original Contractor's All Risk Insurance Policy covering up to the actual date of completion of work.
- Contract Agreement
- Revised estimate as duly approved by Competent Authority.
- ESI & PF statement duly co-ordinated by Welfare Section.
- Measurement books duly technically checked by Engineer in charge.
- Any other documents which are specified by the Management from time to time.

The Engineer-in-charge has to certify in the work Completion certificate as well as in the Measurement Book, that the work is executed in conformity with the contract specification, drawings and other conditions. The final bill duly checked and co-ordinated by the Engineer-in-charge shall be sent to the Finance Department through Chief Engineer along with the documents stated above.

33. DEFECT LIABILITY PERIOD:

The period of maintenance for the subject work shall be **ONE YEAR**. During this period, the contractor shall be responsible to rectify all the defects noticed and attributable to the work done by him in respect of works executed by him. As soon as any defect in the work come to the notice, the Chief Engineer shall inform the contractor, in writing, to rectify the defect and inform him that in case he fails to do so within a reasonable time, the Company would rectify the defects at his risk and expense as per the conditions of the contract.

If the contractor does not attend to the rectifications in-spite of repeated requests, the Company shall proceed at his risk and expense and get the work completed. The cost incurred by the Company shall be recovered from the defaulting contractor. The Company shall forfeit the balance 50% of the Security Deposit retained and adjust this amount against the expenses so incurred. The balance amount, if any, after recovering the expenses incurred shall be refunded to the contractor. In case the amount available is insufficient to cover the expenses in full, that portion of the expenditure still remaining unadjusted shall be recovered from any of the subsequent bills due for payment to the contractor against any other contract.

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Even after such adjustments, the amount available is insufficient to cover the expenses in full, the Company reserves the right to take legal course of action to recover such unadjusted amount.

34. **CONTRACTORS LIABILITY AND INSURANCE:**

From commencement to completion of the works, the contractor shall take full responsibility taking precautions to prevent loss or damage. He shall be liable for any damage or loss that shall happen to the works or any part thereof.

In addition, the contractor shall indemnify and keep the Company indemnified against all losses and claims for injuries or damages to any person or any property whatsoever which shall arise out of or in consequence of the construction works. For this purpose, the contractor shall take an insurance policy-"**Contractors All Risks Insurance**"- to cover the risks, as per the Conditions of the Contract. The insurance policy has to be kept valid till the work is completed and the possession handed over to the Company. The policy shall be taken at his cost showing the Company as the 'principal' to simplify the work in the matter of raising claims and settlement thereof.

35. MATERIALS obtained from demolition/dismantling work shall remain with the Contractor at his own risk till such time the Contractor removes them to BEML stores or as directed within 10 days from the date of completion. If he fails to remove such dismantled materials to BEML stores or as directed within 10 days from the date of completion, the Engineer-in-charge will be entitled to remove them at the risk and cost of the Contractor.
36. The measurement for payment of said works as per the contract will be paid as per the standards mentioned in IS 1200. For theoretical consumption of materials like cement, aggregates, etc., IS 10067-1982, Specification of materials constants and building works shall be followed.

THE various provisions in this special condition shall be deemed to take precedence over those in General conditions/specifications to the extent applicable.

Special Condition as stated in Clause 1 to 36 are fully read and are acceptable to me/us.

DATE:

SIGNATURE OF THE CONTRACTOR 'S

Bid invitation No: 6300039258**Closing Date: 03/02/2025****06. SAFETY CONDITIONS****1. General:**

The Contractor shall take all safety precautions / measures and ensure safety for the works, he has been contracted to execute. He shall follow all relevant safety codes of BEML/MES/CPWD and IS codes and safety manuals. The Contractor shall indemnify BEML from any consequences arising due to Contractor's failure in respect of safety measures. Some of the more important measures are listed below. The Contractor shall implement any further measures which may be required as per the safety codes of BEML /MES/CPWD/ IS codes etc. and the measures which the Engineer may call for during the execution of the work.

2. Scaffolding:

Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra labourer shall be engaged for holding the ladder and suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal and 1 vertical).

3. Guard Railing in Scaffolding / Staging / Platforms:

Scaffolding or staging more than 3.25 meters above the ground floor or floor swung or suspended from an overhead support or erected with stationary support, shall have a guard rail properly attached, bolted, braced and otherwise secured at least 1 meter high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be so fastened as to prevent it from swaying from the building or structures.

4. Working Platform / Gangway / Stairway:

Working platform, gangways and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangway or stairways is more than 3.25 meters above ground level or floor level, it shall be closely boarded, have adequate width and be suitably fenced provided with guard rail as described in 2 above.

5. Access to working platforms and other working places:

Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 5 meters in length. Width between side rails in a rung ladder shall in no case be less than 30 cm. for ladders upto and including 3 meters in length. For longer ladders this width shall be increased at least 6 mm. for each additional 30 cm. of length. Uniform step spacing shall not exceed 30 cm.

6. Hoisting Machines:

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Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following:

Those shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in good repair and in good working order. Every rope used in hoisting or lowering materials or as a means or suspensions shall be of durable quality and adequate strength, and free from patent defects.

Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 shall be in charge of any hoisting machine including any scaffold winch or give signals to operator.

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

Motors gearing, transmission, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards; hoisting appliances shall be provided with such means as will reduce to the minimum, risk of accidental descent of load. Adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, working apparel such as gloves, sleeves and boots, as may be necessary shall be provided. Workers shall not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

Load tests: All cranes, hoisting machines etc. shall be load tested. Contractor shall submit test certificate from competent, authorized person before use.

7. Demolition Works:

Before any demolition work is commenced and also during the process of the work:

- a. All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- b. No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by Contractor shall remain electrically charged.
- c. All practical steps shall be taken to prevent danger to persons employed, from risk or fire or explosion, or flooding. No floor, roof, or other part of a building shall be so overloaded with debris or materials as to render it unsafe.
- d. All blasting materials shall be stored and handled as per guidelines of relevant authorities.

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- i. Contractor shall erect and maintain barricades required in connection with his operation to guard or protect:
 - a. Excavation / Hoisting / Lifting areas
 - b. Slab Openings
 - c. Areas adjudged hazardous by Contractor's or Engineer's Inspection.
 - d. Existing property subject to damage by Contractor's operations.
- ii. Contractor's employees and those of his sub-Contractors shall become acquainted with BEML / Engineer's barricading practice and shall respect the provisions thereof.

9. Net & Protective Platform:

The Contractor shall provide and maintain a closely knitted PVC net all-round tall buildings throughout the construction period. This shall be strictly followed and work shall be permitted only when complied to satisfaction of the Engineer. If the above are not fully taken care of the Engineer reserves the right to get the same carried out through other agency at the risk and cost of the Contractor.

10. Prevention of Fire and Protection:

All combustible waste materials, wood scaling, soiled rags, etc. should be removed daily and burned in suitable areas.

Fire, welding, and flame cutting should not be permitted in combustible areas. Fires and open flame devices should not be left unattended.

Smoking should be prohibited in all flammable material storages, viz. carpentry, paint shops, garages, service stations, etc. "No Smoking" signs should be posted on all such areas.

Accumulation of flammable liquids on floor, walks, etc, should be prohibited. All spills of flammable liquids should be cleaned up immediately.

Flammable liquids, lubricants, etc. should be handled and transported in safety containers and drums which can be kept tightly capped.

Petrol or other flammable liquids with a flash point below 100 Deg F should not be used for cleaning purposes.

Oxygen cylinders should not be stored with combustible materials.

All electric installations should be properly earthed. Repairs should not be made on electrical circuits until the circuit has been de-energized.

Fire extinguishers and fire buckets, painted red, should be provided at all fire hazardous locations. Extinguishers should be inspected, serviced and maintained in accordance with manufacturer's instructions. The inspections should be evidenced by the notations on the tag attached to the extinguisher.

Handling of Hazardous materials shall be as per statutory regulation.

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All temporary and permanent electrical installations, power distribution and supply required for execution of Work shall be carried out conforming to existing industrial and domestic safety rules and regulations. Important specific points to be noted are as under:

Meter room and main switches should be freely accessible at all times and fully protected against all weathers.

Power distribution system shall be identifiable with display marking on switches.

All power distribution shall be carried out with coated, adequately, insulated and of appropriate current / load rating cables. It shall be securely routed for this purpose. No loose, naked, hanging wires shall be permitted.

Over load protection devices shall be installed whenever and wherever heavy current / load consuming construction or plant machinery susceptible to hazard is in use and as directed by the Engineer.

Metallic plugs and sockets shall be used in field work. Switch board shall be in close proximity so as to have quick control over the supply

Proper and adequate earthing connection to be provided for all installation, plant machinery and distribution system.

Hand lamps and inspection lamps shall be adequately insulated and guarded with wire mesh and will have proper plugs for use.

Security and illuminatory light shall be secured firmly and protected to withstand all weather.

12. Protective Equipment / Gears:

All necessary personal protective equipment as considered adequate by the BEML and the Engineer shall be available for use of the persons employed on the site and maintained in a condition suitable for immediate use; and the Contractor shall take adequate steps to ensure proper use of equipment by those concerned.

Workers employed on mixing cement concrete shall be provided with protective footwear and protective goggles, hand gloves of polythene type.

Those engaged in handling any material which is injurious to eyes shall be provided with protective goggles.

Those engaged in welding works shall be provided with welder's protective eye-shields.

The following safety equipment should be provided to workers as required and their use enforced. Rubber boots; hard toe protective safety boots; hard hats & helmets, safety belts; goggles for stone/concrete cutters., gas welding aprons, respirator shields, manila ropes and slings for life lines, gloves, flash lights, battery lamps, safety nets, boatswains chairs, helmets, life and ring buoys.

Items of personal wear should be maintained in serviceable condition and should before being reissued to other employees or returned to stores to be cleaned, sterilized, inspected and repaired, if necessary.

Loose and frayed clothing, hand rings, loose watch chains, etc. should not be worn around moving machinery or other sources of entanglement.

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Every receptacle used for raising or lowering stones, bricks, tiles, slates, or other subjects should be enclosed, constructed or designed so as to prevent the accidental fall of such objects.

All gears, tools, goods or loose material should be properly loaded into the bucket or receptacle in which they are being raised or lowered. If necessary, they should be properly secured or effective precautions should be taken to prevent their fall.

No timber or materials with projecting nails should be used in any work because they can be a source of danger to people.

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

14. First Aid and Industrial Injuries:

i. Contractor shall maintain first aid facilities for his workmen. First aid appliance including an adequate supply of sterilized dressings and sterilized cotton wool should be maintained in a readily accessible place. Appliances should be kept in good order and they should be placed under the charge of a responsible person who should be readily available during the working hours.

ii. Contractor shall make adequate arrangements for ambulance service and for treatment of injuries. Names of those providing these services shall be furnished to BEML prior to start of constructions and their telephone numbers shall be prominently posted in Contractor's field office.

iii. All critical industrial injuries shall be reported promptly to the ENGINEER - IN - CHARGE and a copy of Contractor's report covering each personnel injury requiring the attention of a physician shall be furnished to BEML.

15. Maintenance:

All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places of work.

16. Enforcement:

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To ensure effective enforcement of the rules and regulations relative to safety precautions, arrangements made by the Contractor shall be open to inspection by the Engineer or his representatives and the Inspecting Officers.

17. Displays:

These safety provisions shall be brought to the notice of all concerned by display on a notice board at prominent places at the work spot. Persons responsible for ensuring compliance with the Safety Code shall be named therein by the Contractor.

18 Work permits:

Contractor shall take work permits from concerned departments of BEML as per requirements before commencement of the work everyday.

The contractor shall at his own cost and responsibilities follow all the safety rules and regulations and safety codes such as:

IS codes (Latest Revisions)	As applicable to the relevant work
3696 1987	Safety code for scaffolds and ladders.
4014 (part 2) -1986	Safety regulations for steel tubular scaffolding
3764 1966	Safety code for excavation work.
4081 1986	Safety code for blasting and related drilling operation.
4130 1976	Safety code of demolition of building.
4138-1977	Safety code for working in compressed air
4912-1978	Safety requirements for floor and wall openings, railings and toe board
7969-1975	Safety code for handling and storage of building materials
13415-1992	Safety code for protective barriers in and around the building
13416-(part 2) - 1992	Recommendations for preventive measures against hazards at workplace- fall prevention
5916 1970	Safety code for construction involving use of hot bituminous material.
7293 1974	Safety code for working with construction machinery.
8989 1978	Safety code for erection of concrete framed structure.
7205 – 1973	Safety code for Erection of Structural steel works

Safety Conditions as stated in Clause 1 to 18 are fully read and are acceptable to me/us.

DATE:

SIGNATURE OF THE CONTRACTOR 'S

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The following are scope of work.

1. The scope work consists of the construction of 48 units of Staff Quarters, Allied building viz., Security room, shops & estate office, Two wheeler parking shed, UG Sump & Pump house etc., Internal Road and Storm water drain as per the enclosed drawing, BOQ & Specification. The scope also includes electrical and plumbing work for the above buildings.
2. The contractor shall use materials as per the List of approved materials. Drawings (Architectural, Structural & MEP) & Technical Specifications are enclosed in **Annexure-I , Annexure-II Annexure-III & Annexure-IV respectively**
3. Initial inspection of the site, setting out the proposed building and to get approval from the concerned authorities before starting the works.
4. Execution of all civil, structural steel works as per the Execution drawing.
5. Drawings attached with this tender are tentative and Drawings for execution will be released by the Consultant on finalization of the contract.
6. The project site shall be properly protected from the other working area by providing barricade/ netting for suitable height as directed by Engineer in charge, for protecting from dust & debris. Construction work shall not affect the regular production activities of BEML.
7. Submission of Handing over documents like Test Certificates, As Built Layout / Drawing (3 hard copies of original size + Soft copy).
8. Measurement records for the work carried out will be prepared jointly by the Contractor & Engineer in Charge and payment will be made only for the actual quantity of work executed as per the measurement record. The measurement record shall be concurred by the Consultant.
9. The contractor has to work in close co-ordination with BEML, Consultants or carrying out the work without affecting the security of BEML.
10. Specifications of Materials used shall be as per BOQ/Technical specification. The Works shall be carried out as described in BOQ/Technical specification and relevant IS standard as a guide for standard practice.

08. OTHER TERMS AND CONDITIONS:

1. The Contractor shall not throw/ dump any waste materials after work. The same shall be only stored in specific areas as instructed by Engineer in Charge.
2. The firm shall carry out the work to the entire satisfaction of BEML.
3. Contractor shall follow general, rules, regulations and disciplinary instructions of BEML.
4. The employees of the firm shall obtain necessary pass from Maintenance/ Security department by following BEML rules before commencement of work.
5. The firm / Contractor has to bring necessary Tools/ Consumables/Plant & Machinery equipment, etc., required for the work. The contractor will also arrange for getting permission (for their use) if required from local or other concerned authorities so also for their transportation to site. All expenditure incurred in this connection will have to be borne by the Firm / Contractor. The firm

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shall also maintain sufficient measuring instrument with valid calibration certificate at site for quality control requirement.

6. All the items supplied/ brought by the firm shall be entered in BEML main security gate by producing proper delivery challans/ documents as per the rules of BEML. The items shall be kept inside the factory in a place identified by BEML only during the course of work. The firm shall make his own arrangement for safe custody of his items and the firm will be the custodian of items brought by him. BEML is not responsible for any loss/ damage to firm's items.
7. The loading/ unloading of the materials for the work at site is under the scope of the firm and shall carry out without affecting the man and material movement of BEML.
8. From commencement to completion of the work the firm shall take full responsibility, taking precautions to prevent loss or damage to BEML property at related work site. The firm shall be liable for any damage or loss that may occur during the progress of work. It is the responsibility of the firm to make correction/ rectification/ providing new one of damaged property etc whichever is required as per the site condition, failing which the BEML will withheld the equivalent amount incurred for correction/ rectification/ providing new one from the bill of firm.
9. The firm shall adhere all the statutory requirements related to deployment of labour for the work as per the prevailing rules & regulations.
10. The firm shall make its own arrangement for boarding & lodging for their employees.
11. The employees of the firm can avail the canteen facility if required during the working hours on actual chargeable basis as per the BEML rules subjected to availability and prior intimation.
12. The firm's employees shall be ready to work on Sundays / Holidays if required as per the site conditions.
13. The firm has to provide all the Personal Protective Equipment's (PPEs) related to safety to their employees. The firm shall be sole responsible for any type of accident occurs while executing the work. BEML shall not hold any responsibility for such accidents.
14. The firm has to carry out the work in concurrence with BEML and complete the work to the satisfaction of BEML. Work has to be carried out without disturbing the working atmosphere. No inconvenience should be caused to BEML in all respect

09. LIST OF APPROVED MATERIAL		
a) FOR CIVIL WORKS		
S. NO	Name of Material	Make
1	Cement (PPC/OPC)	ACC/ Ultra Tech/ RAMCO / Dalmia cements/ Chettinad Cements
2	Reinforcement Steel	TATA/ SAIL/VIZAG/ JINDAL/ JSW/ESSAR
3	White Cement/ Wall putty	Birla wall care/JK White/ Berge/, Asian Paints/ShieldmaxX
4	Ceramic Glazed Tile	Kajaria/Johnson/ Nitco/ Somany (all first quality).
5	Vitrified Floor Tile	Kajaria/Johnson/ Nitco/ Somany (all first quality).
6	PVC drain Pipe	Supreme/Prince/ Finolex (Min 6.0 kgf pressure)
7	CPVC water supply pipe	Finolex/ Astral/ Supreme/ Prince/ Ashirvad (wall pressure Min500 psi)
8	G.I. Pipes	Jindal (Hissar)/ Tata
9	Float glass	Modig Gaurd/ St Gobains / HNGIL/ Ashai Float / AIS
10	Toughened Glass	Modig Gaurd/ St Gobains / HNGIL/ Ashai Float / AIS
11	Frameless Glass fitting	Ozone / Dorma
12	Pre-laminated board	Greenlam/ Merino /Kitply/Century
13	Primer / Emulsion / Enamel paint	Asian/ ICI (Dulux)/ Nerolac/ Berger
14	Stainless Steel	Jindal/ SAIL/ Indian Stainless Steel
15	Steel windows	Jangid Engineering/ AGFUV/ SEN HARVIC/NAVAIR Delhi/ SUKRITI Delhi /

BEML LIMITED

(A Government of India Mini Ratna Company under Ministry of Defence)
 Kinfra Wise Park, Kanjikode, Palakkad – 678621, Telephone: 0491-2568178

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		NCL
16	CI Manhole	NECO/ Kapilansh /SKF/RPMF
17	G.I. Fittings	UNIK/ ZOLOTO/ NVR
18	Structural Steel	TATA/ SAIL/ Jindal/ Vizag/ APL Apollo
19	Structural Steel- MS pipes only	TATA/ SAIL/ Jindal/ Vizag/ APL Apollo
20	Hardware's	Hettich/ Godrej/ Dorma / Everite/ Godrej/Iron mongery
21	Stainless Steel Bolts/ Washers & Nuts	Kundan/ Puja/ Atul
22	Chequered Precast Concrete Tile	Hindustan Tiles/ Ultra/ Swatik Tiles/ or equivalent
23	PVC casing pipe	Kissan (Agro)/ Appollo& Supreme
24	Ply board & Ply	Archid/Greenply/Century/Kitply
25	Laminate	Greenlam/Merino/ Century/ Action TESA / Sunmica
26	uPVC Windows	Fenesta/ Prominance/ Rehau/Torfenster/ Alupast / Ncl Veka Ltd
27	Paints	Asian paints/ Dulux/Nerolac/Berger
28	Epoxy Paints	Asian/ Nerolac/ Berger/ ICI / Kansai Akzo Nobel
29	Door	Ferro Door/Mikasa doors
30	Fire rated door	Signum Fire Protection/ Shakti Metdoor/ NAVAIR/ Sukri/ Promat International
31	Door Locks	Godrej/Europa/Ozone/Dorset
32	Water proofing chemical	DrFixit /SIKA/ ARDEX/BERGER /FOSROC
33	Rolling Shutter Motor	CAME/AUTOZON/ GEAPL
34	ATT Chemicals	Premise/ Pedilite terminator
35	GI Doors	TATA/ Fushion india/ bristol

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36	FRP Doors	Decors/ Hindustan/ Ventura
37	GI Manhole	Agarwal exports / Spark
38	FRP Manhole	Ventura/Vikrant/paramount/Futonpolymers
b) FOR PEB / STRUCTURAL WORKS		
S NO	Name of Material	MAKE
1	HR plates for Built-Up Sections	VIZAG/ SAIL/ ESSAR/ TATA/ JSW/JINDAL
2	Hot Rolled Steel: Beams /Channels / Angles/ Rods / Plates	VIZAG/ SAIL/ ESSAR/ TATA/ JSW/JINDAL
3	Hot Rolled Steel: Circular/Square/Rectangular Tube Sections	VIZAG/ SAIL/ ESSAR/ TATA/ JSW/ APPOLLO/JINDAL
4	Pre Galvanized Cold Rolled Coils:- Purlins /Girts	SAIL/ ESSAR/ JSW/TATA/ JINDAL
5	Galvalume Roof Sheetting / Galvalume Wall Cladding/ Flashing/ Gutter/ and Downspout	TATA BLUE SCOPE/ JSW/ META COLOUR/ LLOYD INSULATIONS/ INTERARCH
6	Tube sections	VIZAG/ SAIL/ ESSAR/ TATA/ JSW/ JINDAL
7	High Strength Bolts	Deepak/ Atul/ Panchsheel/ TVS &Pooja

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8	Secondary Connections	Deepak/ Atul/ Panchsheel/ TVS &Pooja
9	Sheeting/cladding Fasteners	Fisher/ Hilti/ Corroshield
10	Paint Materials	Asian/ Berger/ Akzonobel/ Jotun/ Nippon
11	Welding Rods	Advani Orikon / ESAB INDIA/ EWAC ALLOYS/ HONAWAR ELECTRODES/ D & H Welding Electrodes
12	Self drilling/ tapping Zinc plated screws size 5.5x55mm for Galvalume sheets	TATA/JINDAL/JSW/ HILTI

c)PLUMBING & STP

S.No.	Description of material	Approved Make
1	European Wall mounted water closet	Hindware/Parryware/Jaquar/Cera
2	Washbasin	Hindware/Parryware/Jaquar/Cera
3	Urinals	Hindware/Parryware/Jaquar/Cera
4	Bib cocks	Hindware/Parryware/Jaquar/Cera

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5	UPVC,PVC pipes with fittings	Supreme/ Finolex/ Astral/Aashirvad
6	All types of Valves	Zoloto/Apollo/Leader/Audco
7	Solenoid valves	Dwyer/Taylor/Audco
8	Cast iron pipes and fittings	Nico, Kejriwal, Kesoram, Electro Steel
9	Brass Ball Valve	Supreme/ Finolex/ Astral/ Kirloskar
10	Polyethylene Storage Tank	Sintex/ Polycon/ Fusion
11	Hydro-pneumatic pump	Grundfos, Kirloskar, KSB, Mather Platt
12	Water dispenser	Thermax /Aqua Process/ Ion-Exchange/ Cross fields
13	Galvanised Iron pipes	Jindal/ Techno flex
14	Wall Mixer	Hindware/Parryware/Jaquar/Cera
15	Kitchen Sink	Hindware/Jindal/Cera/ Parryware
16	CP fittings	Hindware/Parryware/Jaquar/Cera
17	Raw water feed pump	Kirloskar/KSB/Mather Platt
18	De cantation pump	Kirloskar/KSB/Mather Platt
19	Air blower	A one/Robuschi
20	Coarse bubble membrane aerator	Tachpro/SS reliaball
21	Fine bubble membrane aerator	Techpro/SS reliaball
22	Sludge transfer pump	Kirloskar/KSB/Mather Platt
23	Filter feed pump	Kirloskar/KSB/Mather Platt

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24	Uv system	Alfaa/Ultre aqua
25	Hypo dosing system	I dose/Unique
26	Piping	Supreme/ Finolex/ Astral/Aashirvad
27	Control panel	L&T/Legrand
28	Electromagnetic flow meter	Flow measures/siemens

d) ELECTRICAL

Sl. No	Description of material	Approved Make
1	MCCBs/MCBs/RCCBs/RCBOs /DBs/Enclosure Box	Siemens/ Schneider/ L&T/ Legrand
2	XLPE LT Cables	Finolex/Polycab/Havells/KEI/RR KABEL
3	FRLS and PVC insulated stranded flexible copper wires as per IS 694	Finolex/Polycab/Havells/KEI/RR KABEL
4	PVC rigid conduit heavy duty	Finolex/Precision/Avon Plast/ Vasavi /other ISI make with approval. Minimum thickness 2.0mm upto 25mm and 2.5 mm for above 25mm
5	M.S. Conduit pipe / G.I. Pipe	TATA / GST / Bharath/ BEC
6	Modular type Switches, Socket, Fan Regulator, including Modular Boxes and Plates and accessories	Legrand (Myrise)/ Crabtree (Picadly)/ Schneider Zencello
7	LED light Fittings, lamps &	Philips/ Havell's/ Bajaj/ CGL

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Sl. No .	Description of material	Approved Make
	accessories	
8	Ceiling Fans (5* rated BLDC as per BEE)	Havell's/Usha/CGL/Bajaj/Orient
9	Exhaust fans/Wall fans	CGL/Bajaj/Havell's/Almonard
10	Crimping type lugs / Glands	Dowells/ Jainsons / Asian / Commet
11	Cable Tray	RICO/PILCO/VENUS/ Profab
12	Rubber Mat	Syntex /Jyoti
13	Multifunction meter	El measure/ Schneider/L&T
14	Telephone cable	Finolex/Havells/Polycab/RR cable
15	LT Panel	CPRI Approved Manufactures
16	Terminals	Connectwell/ CHHABI/ Cab seal / Wago / Elmex
17	All Other Items	Reputed ISI certified Make

Note:

- The contactors shell use only above mentioned approved make of materials for the doing the executions.
- The samples of the material shall in either case have to be got approved from the Engineer-in-charge.
- Material where no make/brand has been mentioned, in this case ISI marked samples shall be submitted by the contractor for approval of Engineer.
- For any item not covered in the list, the contractor shall get the make & sample approved from the Engineer-in-charge before procurement. The final choice of make to be used in the works will rest with the client and the decision of the Engineer-in-charge shall be final & binding on the contractor in this respect.
- Contractor will be responsible to ensure the quality of products listed in approved list of makes/brands. Contractor will have to replace the defective and sub-standard materials at his own cost

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10. QUALITY ASSURANCE PLAN

Quality Assurance plan consists of all planned and systematic actions to be under taken by the contractor involved in execution and acceptance of the works involved in the contract. The plan shall define the operations to be performed, the systematic and sequential progression of operations, the persons responsible for each activity and the measures employed to assure the specific quality. Thus, it is imperative to ensure that product and services are inspected, checked and approved at all stages from commencement of work including receipt of material to its completion in so far as utilization.

1. QUALITY CONTROL

The contractor shall setup quality control process at the site for carrying out the following activities: -

- a) Establishing site Laboratory.
- b) Preparation of Quality Plan /Approved Material List/Sample approval
- c) Trial Mix design
- d) Testing of Incoming Material
- e) Regular Material/Test/Identify non-conforming materials:
- f) Calibration of laboratory equipment

2. LABORATORY EQUIPMENTS REQUIRED

The equipment's required for testing of the following materials shall be maintained in the site.

1. Cement
2. Coarse Aggregate and Fine Aggregate
3. Steel
4. Fresh and hardened concrete

Apart from the above, any other required testing shall be carried out in any NABL accredited lab or Reputed institutions with prior approval from BEML / PMC.

3. INSPECTION PLAN

Sl. no	Activity Description	Code of Conformance	Performer /Checker	Approver	Surveillance Check
1	Co- ordinates Levels of Bench Mark	Drawings	Surveyor	BEML/PMC	Witness
2	Calibration of Total station	As per Relevant IS codes	Surveyor	BEML/PMC	Witness
3	Site Marking	Drawing	Surveyor	BEML/PMC	Witness

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4	Excavation	Drawings	Site Engineer & Surveyor	BEML/PMC	Witness
5	Anti-termite Works	BOQ	Site Engineer	BEML/PMC	Witness
6	Adopting mix designs for various grade	IS456	Site Engineer	BEML/PMC	Witness
7	Preparatory works for steel/plywood	As per standard	Site Engineer	BEML/PMC	Random
8	Fixing and positioning in location for shuttering works and support etc	Drawings	Site Engineer	BEML/PMC	Random
9	Checking of alignment vertical dimension, coordination etc in line with construction drawing	Drawings	Site Engineer	BEML/PMC	Random
10	Preparation submission and approved of BBS in line with construction drawing	Drawings	Site Engineer	BEML/PMC	Random
11	Straightening, cutting, bending and binding in position of rebar Work as per drawing	Drawings	Site Engineer	BEML/PMC	Random
12	Checking & fixing metal inserts/bolts as per drawing in location	Drawings	Site Engineer	BEML/PMC	Random
13	Preparation & check of temporary arrangement of staging, chute, walkway, Machineries etc.	As per standard	Site Engineer	BEML/PMC	Random
14	Mixing, pouring and placement of fresh concrete including admixture	Mix Design	Site Engineer	BEML/PMC	Random
15	Check of slump, W/C ratio	Mix Design	Site Engineer	BEML/PMC	Witness
16	Sampling and testing of Cubes	Mix Design IS 456	Site Engineer	BEML/PMC	Witness
17	De-shuttering with adequate precautions	IS456/as per specification	Site Engineer	BEML/PMC	Random
18	Curing of Concrete	IS456/as per specification	Site Engineer	BEML/PMC	Random

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19	Check of visual inspection of concrete surface and rectification of unsatisfactory Performance, if any	As per standard	Site Engineer	BEML/PMC	Random
20	Selection of approved welders.	IS Code	Site Engineer	BEML/PMC	Witness
21	Fabrication Fit up	Drawings	Site Engineer	BEML/PMC	Witness
22	Welding	As per approved procedure	Site Engineer	BEML/PMC	Random
23	Final inspection Fab	Drawings/ Specifications	Site Engineer	BEML/PMC	Witness
24	Sand Blasting	IS Code	Site Engineer	BEML/PMC	Random
25	Primer and Painting	Manufacturer Specification	Site Engineer	BEML/PMC	Random
26	SS Hand rail works	As per BOQ Specification	Site Engineer	BEML/PMC	Joint
27	Plumbing works	As per BOQ Specification	Site Engineer	BEML/PMC	Random
28	Masonry Work- Block work & Plastering Work	As per BOQ specification & manufacture spec	Site Engineer	BEML/PMC	Random
29	Waterproofing Work	Manufacturer & installer specification	Site Engineer	BEML/PMC	Joint
30	Roofing Sheet works with lifeline works	Manufacturer & installer specification	Site Engineer	BEML/PMC	Random
31	Tile Works	Manufacturer, installer & BOQ Specification	Site Engineer	BEML/PMC	Random
32	Doors, Windows & Ventilators works	BOQ Specification & Manufacturer Specification	Site Engineer	BEML/PMC	Joint
33	Stone & Paver Works	BOQ Specification	Site Engineer	BEML/PMC	Random
34	Painting Works	Manufacturer & BOQ Specification	Site Engineer	BEML/PMC	Joint
35	Miscellaneous Works any	As per BOQ Specification	Site Engineer	BEML/PMC	Joint

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4. RAW MATERIALS QUALITY CHECKS

The raw materials shall be inspected for the followings defects / parameters before using in the construction process. If any Non-Conformities observed, the respective raw materials shall be shifted away from the site and not to be used for the construction.

Sl. no	Raw Materials	Inspection Parameters
1	Fine Sand	Excess clay contents. Natural color pigments reducing Cohesion is more Containing more pebbles.
2	Coarse sand	Excess clay contents. Natural color pigments reducing Cohesion is more Containing more pebbles.
3	12mm metal	Mixing of down grade sizes-12mm,6mm&chips Natural color pigments reducing (Whitish) Mixing of quarry dust more Mixing of Flake metal more (Pathai) Over size than correct size.
4	20mm metal	Mixing of down grade sizes-12mm,6mm&chips Natural color pigments reducing (Whitish) Mixing of quarry dust more Mixing of Flake metal more (Pathai) Over size than correct size.
5	40mm metal	Mixing of down grade sizes-12mm,6mm&chips Natural color pigments reducing (Whitish) Mixing of quarry dust more Mixing of Flake metal more (Pathai) Over size than correct size.
6	Water	Colour of water is bad. Smell of water is not good
7	Plywood	Bend in surface, Reused plywood, quality is not good Un even thickness in plywood Diagonals are in proper
8	Reinforcement Steel	Uniform length is not obtained. Uniform thickness is not appeared Corrosion in steel appeared Brand name not mentioned Straight line not available.

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		MTC's not produced.
9	Cement	Batch no. Mfg date not mentioned in bag. Fineness is not good when handling physically.
10	Shuttering Oil	Shuttering oil is large area covering by adding water. Shuttering (Chemical) oil is not exceeded to expired date. Shuttering oil is mixed with water any chemical reactions is occurred. Oil is mixed with old oil for cont. applications.
11	Welding rods	Manufacturing & Expired date not mentioned. MTC's not produced. Size and thickness are meeting the requirement. Damages are occurred.
12	Electrical goods	As per IS specification—not noted in packing. As per IS standard brands are not used No. of ply's as per cable size not available. Packing condition of cables are not good Panelboards/MCB's are in crack position and damaged.
13	Tiles	As per Manufacturer standards & Grades Tile Bent, Physical damages at corners, shade not matching
14	Paint materials	Stock validity, voc content to check. Color degradation to Check.
15	Structural Steel	Physically to check the gauge, rust and sheet deformation if any and for physical damages any.
16	Plumbing material	Check for make, size, any physical damage and flexibility.
17	Roofing Sheet	Check for material size, color, damage if any as per approval.
18	Waterproofing material	Check for physical damage, expiry date, make & spec of material
19	Joineries	Check for the material damage if any, make of material, glass damage if any, make of glass, hardware's availability, defects in the rubber beadings, nuts bolts, screws as per

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		requisite dia& size and gauge with standard make.
20	Stainless Steel	Check for the gauge, material finish, physical damage and on the bends.

5. TEST REQUIREMENTS FREQUENCY AND LIMIT

INSPECTION&TEST PLAN			
ITEM NO	TEST	FREQUENCY	REFERENCECODES
1	COARSE AGGREGATES		
	Sieve Analysis	Once for every source approval	IS:2386(Part1)-1963, IS:383- 2016
	Flakiness Index and Elongation Index	Once for every source approval	IS:2386(Part111)-1963, IS:383 - 2016
	Specific Gravity and Density	Once for every source approval	IS:383-2016, IS2386(PART 1V)
	Impact value	Once for every source approval	IS:2386(PART1V)-1963
	Water Absorption	Once for every source approval	IS:383-2016,2386 (PART 111) -1963
	Soundness	Once for every source approval	IS:383-2016, IS2386 (PART V) - 1963
2	FINEAGGREGATES		
	Particle Sizes/Sieve Analysis	Once for every source approval	IS:383-2016, IS2386 (PART1) -1963
	Silt Content	Once for every source approval	IS:383-2016
	Specific gravity	Once for every source approval	IS:383-2016
	Density	Once for every source approval	IS:2386(PART11)- 1963
	Water Absorption	Once for every source approval	IS:383-2016, 2386 (PART 111)-1963

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	Fineness modulus	Once for every source approval	IS:383-2016,2386 (PART1)- 1963
3	WATER		
	1.Chemicalanalysis		
	(a)Ph value	Once for every source approval & once in 6 months from third party lab	IS456:2000/IS3025
	(b)Chlorides (as Cl)		
	(c)Sulphates (as SO3)		
	(d)Neutralization with NaOH (with phenolphthalein as indicator)		
	(e)Neutralization with H2SO4(with mixed indicator)		
	2.Physicalanalysis		
	(a)Suspended matter	Once for every source approval & once in 6 months	IS:3025(Part17)
	(b)Organic matter		IS:3025(Part 18)
	(c)Inorganic matter		IS:3025(Part 18)
4	REINFORCEMENT BARS Fe500D / Fe550D		
	1.ChemicalTests	Once for every source approval, all consignment MTC	IS:1786-2008
	(a) Carbon		
	(b)Sulphur		
	(c)Phosphorus		
	(d)Sulphur+Phosphorus		
	2.PhysicalTests		
	(a)Ultimate Tensile Strength	One sample for every source approval. One sample for every 50 MT & all consignment MTC	IS:1786-2008
	(b)0.2%ProofStress		
	(c)%Elongation		
	(d)Bend Test		
	(e) Rebend Test		
	(f)Mass per meter run (kg)		
5	(A)CEMENT (OPC/ PPC)		
	1.ChemicalTests	Once for every source approval & all consignment	IS:12269-1987
	(a)Chlorides (as Cl)		

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	(b)Ratio of Alumina to that of Iron Oxide	MTC		
	(c)Magnesium (MgO)			
	(d)Total Sulphur Content (SO3)			
	(e)Insoluble Residue			
	(f)Lime Saturation Factor			
	2.PhysicalTests	One sample for every source approval & MTC for all procurements.		IS:4031(PART5)-1988, IS 3535- 1986,
	I. Setting Time			
	(a) Initial			
	(b)Final			
	II.Compressive Strength			IS:4031(PART6)-1988, IS 3535-1986
	(a)At72 ±1hr			
	(b) At168±2hrs			
	(c)At672±4 hrs			
	(b)Ash Content			
	(c)Relative Density			
7	MIX DESIGN INCLUDING TRIAL MIX AND ACCEPTANCE CRITERIA			
	Target Mean Strength	For every design mix		IS:456-2000
	RCC Work			
	(a)Workability	Each truck		IS:516/456, DIN:1048&TECHNICAL SPECIFICATION
	(b)Compressive Strength			
	7days & 28days strength	Qty of concrete (m³)	No. of samples	
		1-5	1 (3 cubes)	
		6-15	2 (6 cubes)	
		16-30	3 (9 cubes)	
		31-50	4 (12 cubes)	
		51 and above	one sample for each 50m³ (3cubes per 50cum)	
12	GRANULAR SUB BASE-GSB			MORTH Specification

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	Gradation		
	Aggregate Impact value		
	Liquid Limit		
	Plasticity Index		
	MDD & OMC		
	CBR at 98% dry density		
13	In general, all materials manufacturer test certificate needed like tiles, upvc doors & windows, plumbing materials, roofing sheet, waterproofing materials		

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11.Bill of quantities (BOQ)

Sl. No	DESCRIPTION	QUANTITY	UNIT
CIVIL AND STRUCTURAL STEEL WORKS			
I	EARTH WORK EXCAVATION		
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30cm measured at a height of 1m above the ground level and removal of rubbish up to distance of 250m outside the periphery of the cleared area. The rate shall be included levelling etc, complete as per the direction of engineer in charge.	18000	SQM
2	Felling tress of girth Beyond 30cm girth upto and including 60cm girth. (measured at a height of 1m above the ground level), including the cutting of trunks and braches, removing the roots and stacking of serviceable material and disposal of unserviceable material, up to distance of 250m outside the periphery of the cleared area	100	NOS
3	Felling tress of girth Beyond 60cm girth upto and including 120cm girth. (measured at a height of 1m above the ground level), including the cutting of trunks and braches, removing the roots and stacking of serviceable material and disposal of unserviceable material, up to distance of 250m outside the periphery of the cleared area	50	NOS
4	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) Footing and plinth beam, including getting out and disposal of excavated earth lead upto 250m and lift upto 1.5 m from periphery, as directed by Engineer-in-charge. Excavation in all kind of soil below NGL to 1.5m. The rate shall include the cost of bailing out of water in pits/trenches etc as directed by Engineer-in-charge., if any. No additional payment shall be made for dewatering from the pits.	3200	CUM

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5	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) Footing and plinth beam, including getting out and disposal of excavated earth lead upto 250m and lift upto 1.5 m from periphery, as directed by Engineer-in-charge. Excavation in Ordinary rock below NGL to 1.5m. The rate shall include the cost of bailing out of water in pits/trenches etc., if any. No additional payment shall be made for dewatering from the pits.	320	CUM
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) Footing and plinth beam, including getting out and disposal of excavated earth lead upto 250m and lift upto 1.5 m from periphery, or part thereof in depth beyond the first 1.5 m Excavation in all kind of soil below 1.5m to 3m. The rate shall include the cost of bailing out of water in pits/trenches etc., if any. No additional payment shall be made for dewatering from the pits, as directed by Engineer-in charge.	1330	CUM
7	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) Footing and plinth beam, including getting out and disposal of excavated earth lead upto 250m and lift upto 1.5 m from periphery, or part thereof in depth beyond the first 1.5 m Excavation in Ordinary rock below 1.5m to 3m. The rate shall include the cost of bailing out of water in pits/trenches etc., if any. No additional payment shall be made for dewatering from the pits, as directed by Engineer-in charge.	70	CUM
8	Supply and fixing of timbering to excavation Use and waste of timbering as planking and strutting for excavations in trenches in soil, including wales, struts, open poling boards and the depth Exceeding 1.5m & not exceeding 3m , etc. as may be necessary and fixing and removal as directed by Engineer-in-charge.	1960	SQM

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9	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) Footing and plinth beam, including getting out and disposal of excavated earth lead upto 250m and lift upto 1.5 m from periphery, or part thereof in depth beyond the first 1.5 m Excavation in all kind of soil below 3m to 4.5m. The rate shall include the cost of bailing out of water in pits/trenches etc., if any. No additional payment shall be made for dewatering from the pits, as directed by Engineer-in charge.	1100	CUM
10	Supply and fixing of timbering to excavation Use and waste of timbering as planking and strutting for excavations in trenches in soil, including wales, struts, open poling boards and the depth Exceeding 3m & not exceeding 5m , etc. as may be necessary and fixing and removal as directed by Engineer-in-charge.	1960	SQM
11	Back filling with available earth free from boulders and rubbish in trenches, plinth beam, foundation under floor etc, wherever required in layers not exceeding 30cm depth and consolidating in each layer by rammering and watering after use 1-ton roller to rolled for compaction (If the roller is not accessible, proper ramming shall be ensured with earth rammer) etc, complete as per the direction of engineer in charge.	1310	CUM
12	Filling with approved earth brought from outside free from boulders and rubbish in trenches, plinth beam ,foundation under floor etc, wherever required in layers not exceeding 30cm depth and consolidating in each layer by rammering and watering after use 1 ton roller to rolled for compaction (If the roller is not accessible, proper ramming shall be ensured with earth rammer) etc, complete as per the direction of engineer in charge.	2850	CUM
II	ANTI-TERMITE TREATMENT		

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13	Providing & injecting Anti-termite treatment by a specialized approved agency as per IS specifications, using preferably 1% by weight of chlorpyrifos or Equivalent chemical with a guarantee for ten years etc., complete (only plinth area shall be measured & paid for 4 stage of percentage as like Footing-20%, Plinth-15%, Flooring-45% and External work-20%). Chemical to be bought in sealed containers. Chemicals with ISI mark shall only be used. The chemical shall be chlorpyriphos emulsifiable concentrates confirming to IS 8944.	1220	SQM
III	W.M.M COCRETE		
14	Supply, Laying and compacting WMM laid in layers of thickness not more than 600 mm each. Wet mix macadam (WMM) grading as per table 400-13 of MoRTH specifications for road and bridge works 2013 manufactured in WMM plant, material comprising of clean,crushed graded aggregate and granular material premixed with water to a dense mass laid in layers and compacted to achieve the required thickness to make as a hard base for the foundation.	1100	CUM
IV	PLAIN CEMENT CONCRETE		
15	Providing and laying PCC 1:5:10 Grade using 40/20mm down size aggregates below flooring in foundations, Footing base concrete, flooring foundations, Plinth beam sides, walls or retaining walls, Demolition floor areas, any thickness, size or shape etc, including Centering, base preparation, proper compaction, vibration, curing, tools and tackles, necessary dewatering, etc compaction etc., complete at all levels.	170	CUM
16	Providing and laying PCC M 1:4:8 Grade using 40/20mm down size aggregates below flooring in foundations, Footing base concrete, flooring foundations, Plinth beam sides, walls or retaining walls, Demolition floor areas, any thickness, size or shape etc. including Centering, base preparation, proper compaction, vibration, curing, tools and tackles, necessary dewatering, etc compaction etc., complete at all levels.	185	CUM
V	REINFORCED CEMENT CONCRETE		

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	<p>Providing & Placing controlled R.C.C. confirming to grades as specified (IS 456-2000) as per specifications using 20mm down size aggregates at any depth or heights excluding the cost of steel reinforcement. Brand of cement shall be followed as per the approved make.</p> <p>Providing and placing RCC of Grade M-25 &M-30 The rate shall include Footings, Foundations beams, bases for Columns, Plinth beams, and basement to the required shape, compaction, levelling, vibrating, curing, excluding form work and Steel reinforcement, etc. Complete All works at all levels and all heights.</p> <p>NOTE:</p> <p>a) For the purpose of concrete, RMC of approved agencies can be used.</p> <p>b) The contractor has to cast the cubes periodically as per the IS Standard and to conduct test for both 7 days & 28 days and to submit test report. Frequency of test shall be as per the IS Standard and the quoted rates shall deem to include for the cost of testing.</p> <p>c) Reinforcement will be measured and paid separately.</p>		
17	<p>Providing and Laying Design mix of RCC M-30 grade concrete. Foundation, including raft footings, foundation beams, plinth beams,bases for column etc.,</p>	820	CUM
18	<p>Providing and Laying Design mix of RCC M-25 grade concrete. Foundation, including raft footings, foundation beams, plinth beams, tie beam ,outer step & slab,bases for column etc.,</p>	55	CUM
19	<p>Providing and Laying Design mix of RCC M-25 grade concrete .Beams, cantilevers, lintels, columns pillars, piers, posts, struts, challoh hoods, stair case, arches, domes, vaults, shell roofs, arch ribs, folded plates, slabs, balconies, canopies, deck slabs, lintel, sill, sunshade, etc. or in similar articles up to 5th floor level.</p>	150	CUM

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20	Providing and Laying Design mix of RCC M-30 grade concrete. Beams, cantilevers, lintels, columns pillars, piers, posts, struts, chullah hoods, stair case, arches, domes, vaults, shell roofs, arch ribs, folded plates, slabs, balconies, canopies, deck slabs, column, roof beam, roof slab etc. or in similar articles up to 5th floor level.	980	CUM
VI	REINFORCEMENT STEEL WORKS		
21	Supplying and Fixing of Steel reinforcement R.C.C. work for TMT bars conforming to IS : 1786(Latest) and the yield strength of 0.2% proof stress shall not to be less than 550N/Sq mm (Fe550 D Grade of steel) Rates include for Straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements. including cost of reinforcement and binding wire, labour and scaffolding at all levels and all heights (Ground,First,second and Headroom) etc. complete all as per specifications & drawings. Note: a) The TMT bars required shall be procured from the reputed manufacturers confirming to relevant IS specification. b) The contractor shall arrange for testing of TMT bars for physical properties from an authorized agency as per the relevant IS code. The test reports shall be submitted for our records. c) The quoted rate shall deem to include for the cost of testing.	276	MT
VII	MASONRY WORKS-FLYASH BRICK		
22	Providing and constructing 230mm thick Fly ash Brick work in cement mortar 1:6 using approved quality bricks, minimum compressive strength of brick 10 N/mm ² . Including raking out joints, scaffolding (Ground,First,second and Headroom) at all levels and all heights, curing etc. complete as directed etc, complete.	1380	CUM

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23	Providing and constructing 115mm thick Fly ash brick work in cement mortar 1;4 using approved quality bricks, minimum compressive strength of brick 10 N/mm ² . including providing openings supplying and placing of hoop iron at every 3 course with necessary scaffolding also including raking out joints (Ground,First,second and Headroom) at all levels and all heights, staging, curing, raking out joints in all floors as specified and directed etc, complete.	2180	SQM
VIII	PLASTERING WORKS		
24	Prepare surface and plaster ceiling/soffits of roof slab/beams, beam sides, Loft and sunshades etc., with 6mm - 10mm thick cement mortar (1:3) including hacking, scaffolding, curing, making grooves, patties, at all levels and all heights (Ground,First,second and Headroom) etc., complete.	3280	SQM
25	Prepare surface and provide plaster drip course/ groove in plastered surface or moulding to R.C.C. projections of 20mm thick cement mortar (1:3) including hacking, scaffolding, curing, making grooves, patties at all levels and all heights(Ground,First,second and Headroom) etc., complete.	1910	RM
26	Prepare surface and plaster internal walls / columns/ brick masonry / block masonry/intermediate concrete members etc. with 12mm tk in cement mortar (1:4). The rate shall include the making grooves, patties, scaffolding and curing at all levels and all heights(Ground, First, second and Headroom), etc., All the RCC element and wall junction shall be provided with GI mesh for about 22 gauge (0.93 mm) hexagonal type with 150mm wide properly nailed at concrete and wall before plastering.	14200	SQM

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27	Prepare surface & sponge plaster to external walls / columns/ brick masonry / block masonry /intermediate concrete members etc. with 20mm tk in cement mortar (1:4). The rate shall include the making grooves, patties, scaffolding and curing at all levels and all heights (Ground, First, second and Headroom) etc., complete at all levels. All the RCC element and wall junction shall be provided with GI mesh for about 22 gauge (0.93 mm) hexagonal type with 150mm wide properly nailed at concrete and wall before plastering.	10100	SQM
28	Brick jelly cement concrete 1:4:8 using approved broken brick jelly 25 mm and down gauge laid in sunken floors.	165	CUM
IX	FLOORING & DADOING WORK		
	Notes: 1. Refer respective flooring drawings before quoting the rates. 2. The rates quoted shall include cutting and laying the tiles near the floor traps, sanitary outlets, acid washing, curing etc. 3. Contractor shall do dry laying of tiles on M Sand bed & get it approved before final laying. 4. Contractor shall protect all the flooring works including staircase with 12mm thick POP covering over polythene sheet/floor guard sheet till handing over the building, including removing and disposing off the debris outside the 'Project Site'. Quoted rate shall include the same. 5. Unless otherwise specified all the rates are inclusive of all necessary leads, lifts, scaffolding, staging, curing etc., complete at all levels. 6. For dadoing, contractor shall prepare tile grid marking and get approval before actual laying of tiles. 7. All tiles both floor and wall in toilets/pantry shall be provided with spacers of 2-3mm at joints and to be filled with epoxy sealant. 8. The rate shall inclusive of all levels and all heights (Ground, First, second and Headroom)complete all as per Architectural drawing and as directed by the Engineer in charge.		

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29	Providing and laying Pre polished 18 mm thk Anti-Skid Granite Stone (steel grey black)stair case steps, jambs, pillars, window-cills, cooking platforms and verandah area of required size, colour, quality, shade and required pattern for Staircase Flooring borders, stairs in Landing, treads, risers and skirting as per Architectural detailed drawings. The steps nosing should be pencil rounded or as required by the Architect and the steps should have 50mm wide flamed finish for anti-skidding with necessary groove cutting for making flaming. The rate to be inclusive of bed mortar of CM 1:4, minimum 20mm thick to maintain the finished floor level. All the joints to be grouted with balendura grout matching colour to flooring materials, necessary grouting arrangement to hold the balustrade of hand rail, leading & lifting of all materials, required scaffolding, barrier, wastage of materials and required polishing and cleaning after laid etc, complete all as per Architectural drawing and as directed by the Engineer in charge.(Basic Cost of Granite Rs.150-sq.ft - Excluding GST).	540	SQM
30	Providing and laying Pre polished 10 mm thk Anti-Skid Granite Stone Skirting (steel grey block) stair case steps, jambs, pillars, window-cills, cooking platforms and verandah area of required size, colour, quality, shade and required pattern for Staircase Flooring borders, stairs in Landing, treads, risers and skirting as per Architectural detailed drawings. The steps nosing should be pencil rounded or as required by the Architect and the steps should have 50mm wide flamed finish for anti-skidding with necessary groove cutting for making flaming. The rate to be inclusive of bed mortar of CM 1:4, minimum 20mm thick to maintain the finished floor level. All the joints to be grouted with balendura grout matching colour to flooring materials, necessary grouting arrangement to hold the blaustrade of hand rail, leading & lifting of all materials, required scaffolding, barrier, wastage of materials and required polishing and cleaning after laid etc, complete all as per Architectural drawing and as directed by the Engineer in charge.(Basic Cost of Granite Rs.150-sq.ft - Excluding GST).	360	RM

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31	Supply and Fixing of Machine cut cudappah stone slab 20-25mm thick over cement screed base, laid and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing both sides and with edge chamfering in front side complete as directed by the Engineer in charge(Basic Cost of cudappah Rs.60-sq.ft - Excluding GST).	235	SQM
32	Providing and Laying Full body Vitrified (Satin/Gloss finish) Tiles (1200 x 600 mm) for hall area and rooms of approved make. size and colour as per Architectural detailed drawings , laid over cement mortar 1:6 of average 25mm thick , over which cement slurry will be poured, including tile spacers of 2 to 5 mm & grouting with Balendura, washed with Diluted HCl complete. complete all as per Architectural drawing and as directed by the Engineer in charge (Basic Cost of Full body Vitrified Tiles (1200 x 600 mm) - Rs.90/sq.ft - Excluding GST).	2765	SQM
33	Providing and Laying Full body Vitrified Tiles 1200mmx600mm Skirting (Satin/Gloss finish) (100 mm height) for Hall ,Rooms verandah area and stair case of approved make. colour and shade as per Architectural detailed drawings on 12mm thick cement mortar bedding 1:3, including tile spacers of 2 to 5 mm & grouting with Bal Endura etc., complete for Cut to sizes.(Basic cost of Full body Vitrified Tiles1200mmx600mm - Rs.90/sq.ft - Excluding GST).	3255	RM
34	Providing and Laying step Tiles (300 x 300 mm) for small buildings steps of approved make. size and colour, laid over cement mortar 1:6 of average 25mm thick , over which cement slurry will be poured, complete all as per Architectural drawing and as directed by the Engineer in charge (Basic Cost of step Tiles 300mmx300mm - Rs.90/sq.ft - Excluding GST).	25	SQM

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35	Providing and Laying Anti-skid Vitrified Floor Tiles (300x 300 mm) for Toilets area of approved make. size and colour as per Architectural detailed drawings, laid over cement mortar 1:6 of average 25mm thick , over which cement slurry will be poured, including tile spacers of 2 to 5 mm & grouting with Balendura, washed with Diluted HCl complete all as per Architectural drawing and as directed by the Engineer in charge (Basic Cost of Anti-skid Vitrified tiles (300x 300 mm) - Rs.90/sq.ft - Excluding GST).	320	SQM
36	Providing and Laying 600 x 300 mm wall full height for all toilets of approved make.size and colour as per Architectural detailed drawings laid over tile necessary Adhesive of 6mm , including supplying & fixing of wall tile paste and tile spacers of 2 to 5 mm and grouting with Balendura, washed with Diluted HCL, including 500 mm Micron polythene sheet covering and removing, cutting of tiles as required etc., complete as per Standard Specifications and as Directed by the Engineer in Charge. (Basic Cost of Vitrified tiles 600 x 300 mm - Rs.90/sq.ft - Excluding GST).	2015	SQM
37	Water Proofing For Toilets floors and walls upto 1m height from floor - Providing chemical water proofing for toilet area by supplying Acrylic polymer modified elastomeric water proofing membrane coating for concrete and masonry with two component cementious acrylic high build coating with Dr.Fixit PDIFIN 2K/SIKA or equivalent material. The system includes base preparation of cleaning, brushing and removal of flaky materials, grouting the porous area with cementious grout, applying in two coats@ 1lit/4 to 5 sq.m/coat . Coating shall be done on the entire horizontal surface with required slope and a spout pipe for outlet and has to be continued 1000mm upto the wall level as per the manufacturer's methodology, specifications and as directed by the Engineer in charge.	710	SQM
X	JOINERIES DETAILS		

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	<p>Notes:1. The contractor should refer respective door/window detailed drawings before quoting the rates. No claims will be accepted after the tender is finalised.</p> <p>2. All the door & window frames should be protected suitably till handing over, failing which the damage/replace of same material and workmanship at contractors' risk and cost.</p> <p>3.The rate shall be inclusive of necessary hardware's.</p> <p>4. The rate shall inclusive of all levels and heights (Ground, First, second and Headroom) complete all as per Architectural drawing and as directed by the Engineer in charge.</p>		
38	<p>Supplying and Fixing of door & galvanized iron Main Door frame shall be of size 100mm x 58mm of 18 SWG, with required rebate of 50mm using GI plates bent to shape with bottom frame in SS. Doors shall be of 48mm thick with GI plates of 22 SWG on both sides infilled with honeycomb structure for stiffness. The door shall be provided with mortice lock, SS handles (D shape), SS Tower bolts of approved make. The door shall be connected with the frame with 4 numbers of SS Butt hinges. The main door shall have view lens with cover. The door frame and door shall be provided with powder coat of thickness 60-65 microns (DFT) finished with necessary base coat, of any of the selected colours such as sun teak/lava teak/Burgundy teak/trunk mahogany/ nest mahogany etc., as per architectural drawings and approval from the architect.</p>	112	SQM
39	<p>Providing and Supplying of Inner Door frame shall be of size 100mm x 58mm of 18 SWG, with required rebate of 50mm using GI plates bent to shape. Doors shall be of 48mm thick with GI plates of 22 SWG on both sides infilled with honeycomb structure for stiffness. The door shall be provided with mortice lock with single bullet normal latch, SS Tower bolts of approved make. The door shall be connected with the frame with 4 numbers of SS Butt hinges. The door frame and door shall be provided with powder coat of thickness 60-65 microns (DFT) finished with necessary base coat, of any of the selected colours such as sun teak/lava teak/Burgundy</p>	181	SQM

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	teak/trunk mahogany/ nest mahogany etc., as per architectural drawings and approval from the architect.		
40	<p>Supplying and Fixing of Toilet door with fibre reinforced polymer Door frame shall be of size 95mm x 65mm, of 2mm thick laminate filled with suitable wooden block, and covered with fibre</p> <p>glass mat all sides with required rebate to receive 30mm thick PVC door shutter using fire resistant grade unsaturated polyester resin and chopped mat. Doors shutter shall be of 30 mm thick FRP Panel made with fire resistant grade unsaturated polyester resin, moulded to 3mm thick FRP laminate for forming hollow rails and styles, with wooden frame and suitable blocks of seasoned wood inside at required places for fixing of fittings, cast monolithically with 5mm thick FRP laminate. The shutters shall have necessary fittings such as baby latch, tower bolts and hinges made of SS. The size and colour of the FRP doors shall be as per Architectural detailed drawings and as directed by the Engineer in charge/Architect.</p>	154	SQM
41	<p>Supplying and Fixing of Balcony door frame :galvanised iron door Door frame shall be of size 100mm x 58mm of 18 SWG, with required rebate of 50mm using GI plates bent to shape with</p> <p>bottom frame in SS. Doors shall be of 48mm thick with GI plates of 22 SWG on both sides infilled with honeycomb structure for stiffness. The door shall be provided with mortice lock with single bullet normal latch, SS Tower bolts of approved make. The door shall be connected with the frame with 4 numbers of SS Butt hinges. The door frame and door shall be provided with powder coat of thickness 60-65 microns (DFT) finished with necessary base coat, of any of the selected</p>	181	SQM

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	colours such as sun teak/lava teak/Burgundy teak/trunk mahogany/ nest mahogany etc., as per architectural drawings and approval from the architect.		
42	Supplying and Fixing of upvc window (Sliding): All UPVC windows shall be made of pure virgin UPVC materials of a defined formulation as per IS 17953-2023. The section shall be free from degradation, UV resistant and each profile shall be marked with standard mark. The mechanical properties of such materials shall be as per IS 13360. The frame shall be of 2.5 track to receive two sliding glass shutters with one SS wire mesh shutter. The size of the frame shall be of 88mm x 50mm with profile thickness of 2.5mm with 1.2mm G.I. reinforcement to receive the fixtures. The shutters shall be of 60mm SASH with 1.2mm G.I. reinforcement. The glass shall be of 5mm thickness plain or as directed by the architect.	335	SQM
43	Supplying and Fixing of upvc window (Openable): All UPVC windows shall be made of pure virgin UPVC materials of a defined formulation as per IS 17953-2023. The section shall be free from degradation, UV resistant and each profile shall be marked with standard mark. The mechanical properties of such materials shall be as per IS 13360. The size of the frame shall be of 88mm x 50mm with profile thickness of 2.5mm with 1.2mm G.I. reinforcement to receive the fixtures. The shutters shall be of 60mm SASH with 1.2mm G.I. reinforcement. The glass shall be of 5mm thickness plain or as directed by the architect.	43	SQM
44	Supplying and Fixing of upvc ventilator with exhaust fan : All UPVC ventilators shall be made of pure virgin UPVC materials of a defined formulation as per IS 17953-2023. The section shall be free from degradation, UV resistant and each profile shall be marked with standard mark. The mechanical properties of such materials shall be as per IS 13360. The size of	44	SQM

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	the frame shall be of 88mm x 50mm with profile thickness of 2.5mm. The louvers shall be of auto louvers of spacing as per architectural drawings. The glass shall be of 5mm thickness pin headed or as directed by the architect.		
45	Supplying and Fixing of Terracotta jolly type window Square shaped terracotta jolly of glossy finishing in natural terracotta material of size and colour as per Architectural detailed drawings having min dimension on 200mm x200mm x 65 mm (each weight minimum 2.5 kg) laid in position using proper bonding adhesive and sealants of matching colour. Chipped, damaged, cracked terracotta jolly should be avoided. The exact size and detailing complete shall be as per the direction of Architect/engineer in charge	72	SQM
46	Providing and fixing Window Grill Mild steel grills of Grade 250 mPa for all window and Ventilator openings. Grills shall be made using 12mm unpolished square rods as per the architectural drawings. The welding shall be of flash butt welding or any other suitable method, which gives the desired results. All the steel surfaces shall be thoroughly cleaned free of rust, dirt, oil, etc.	9270	KG
47	Supplying and Fixing of Head room M.S.Door frame shall be of ISA 50x50x6 mm angles with required holdfast at two locations on either side. The shutter frame shall be made with 40mm x 40mm sq. pipe of 2mm thick infills with M.S.sheet of 2mm thickness as per the architectural drawings.	17	SQM
48	Supply and fixing M.S Grill Mild steel door for gas room: Door frame shall be of ISA 40x40x6 mm angles with required holdfast at two locations on either side. The shutter frame shall be made with ISA 25mm x 25mm x 3mm angles with M.S. welded mesh of 25mm sq. with 2mm rods. In addition to this the shutters shall be provided with SS mesh as per gas room standards and as per the architectural drawings.	420	KG

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49	Providing and fixing Fire rated Door as per Architectural detailed drawings (panel room) specifications. Door leaves: 22 swg (or) 0.7mm thick skin pass galvanized iron sheet with honeycomb kraft paper infill door frame: 18 swg thick skin pass galvanized iron sheet formed to single rebate profile of size and directions made to design and fixed in the masonry with screws as per standard procedure with louvers of 25% area for ventilation, including providing and fixing the patched fittings, etc., complete.	41	SQM
50	Supply and fixing of Cast Iron Manhole cover-2'6"X2'6" , to support 10 ton wheel load over the STP. minimum weight of manhole cover slab=100Kg .Setting in cement mortar 1:3 and flaunching with cement concrete 1:1.5:3 type B-I cast iron manhole covers and frames, light duty, any type and size as per the architectural drawing.	2	NOS
51	Supply and fixing of GI Manhole cover-2'6"X2'6" , to support 10 ton wheel load over the STP. minimum weight of manhole cover slab=100Kg .Setting in cement mortar 1:3 and flaunching with cement concrete 1:1.5:3 type B-I GI manhole covers and frames, light duty, any type and size as per the architectural drawing.	2	NOS
52	Supply and fixing of Fiber Manhole cover-2'X2' ,to support 10 ton wheel load over the Plumbing chamfers. minimum weight of manhole cover s=70Kg .Setting in cement mortar 1:3 and flaunching with cement concrete 1:1.5:3 type B-I Fiber manhole covers and frames, light duty, any type and size as per the architectural drawing.	41	NOS
53	Providing and Fixing of 25mm thk PVC designer(cupboard) door , with 15mm celuka sheet coated(pasted) with 5mm prelaminate Pvc sheet at both sides and provided with 15mm Square G.I pipe at edges.bed rooms with PVC frames and magnetic locks, SS hinges and all necessary fittings. complete all as per Architectural drawing and as directed by the Engineer in charge.	295	SQM

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54	Providing and fixing geared - manually and motorized Rolling shutter of approved make and type fabricated with 18 gauge section M.S Flats with galvanized pressed steel side guides of one piece construction including providing the grill in the middle of rolling shutter of 1.50m high of design and shape as per architectural drawings pressed steel bottom rail with interlocking arrangement for steel laths, brackets extra strong door suspension pipe shaft with high tension coil type spring made out of spring steel wire, locking arrangement, holdfast, handles, MS cover hood on top necessary accessories and fixing etc. Inclusive of Safety lever locks mild steel with 4 levers and Ball Bearing provide. complete in all respect.	17	SQM
55	Providing and fixing of Merino armour façade cladding system using (50.80MM X 25.40MM X1.20 MM)0.478 kg/m, along with 6mm thick armour wooden finish inclusive of Aluminium rivets, ficher anchors, necessary hardwares. member shall be fixed into masonry walls/rcc members and including all necessary fittings, complete all as per Architectural drawing and as directed by the Engineer in charge.	160	SQM
56	Supplying and Fixing of Main gate with structural steel framed work including cutting, welding. Using MS Rectangular (RHS) and square (SHS) pipes, Angles, flats, Square rods etc. as required in gates as per approved drawings . including fixing with Heavy duty hinges, Heavy Ms Tower bolts, Ms Handles in cement concrete or welding to structural member, labour charges, necessary hardware tools & tackles complete etc as directed by Engineer-in-charge. Note: Foundation Excavation and Rcc concrete shall be paid separately)	1100	KG
XI	PAINTING WORKS		

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57	Providing and applying painting for One coat white wash, two coats of putty, One coat primer ,two coat premium emulsion paint of approved make. colour as per Architectural recommendations and shade on all ceiling surfaces heights to give an even shade including after thoroughly brushing the surface free from mortar dropping and other foreign matter and also including preparing the surface even and sand papered smooth and scaffolding, all material and labour at all levels and all heights (Ground, First, second and Headroom) etc. complete all as per Architectural drawing and as directed by the Engineer in charge.	3270	SQM
58	Providing and applying painting for One coat white wash, two coats of putty, One coat primer ,two coat premium emulsion paint of approved make. colour as per Architectural recommendations and shade on all internal surfaces heights to give an even shade including after thoroughly brushing the surface free from mortar dropping and other foreign matter and also including preparing the surface even and sand papered smooth and scaffolding, all material and labour at all levels and all heights (Ground, First, second and Headroom) etc.complete. complete all as per Architectural drawing and as directed by the Engineer in charge.	9560	SQM
59	Providing and applying Painting for one coat white wash, one coats of exterior primer and two coats of Premium Acrylic antifungal cement paint of approved make. colour as per Architectural recommendations and shade to all the exterior surfaces as per manufacturer's specifications including providing necessary and scaffolding, curing ,all material and labour at all levels and all heights (Ground,First,second and Headroom) etc. complete. If additional coats are required to obtain uniform finish, the same shall be carried out at no extra cost (External Surfaces).etc. complete. complete all as per Architectural drawing and as directed by the Engineer in charge.	12360	SQM

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60	Providing and applying two coats of Synthetic Enamel Paint of approved make (colour as per Architectural recommendations) & shade over one coat of zinc primer for MS doors, windows, gates, railings, grills & structural steel work at all levels to give a uniform finish. Including scaffolding, staging, all material and labour at all levels and all heights (Ground, First, second and Headroom) etc. complete. .	520	SQM
61	Providing Texture Painting and applying two coats of Emulsion Paint of approved make. colour as per Architectural recommendations, two or more coats over priming coat, works over sponge plastered surfaces on Exterior surfaces of walls, underneath roof projections etc., including preparing the surface by cleaning the cement mortar, removing the dust/dirt/oil/grease, sanding, filling up the dents, cracks, undulations with crack filler of approved make, erecting and dismantling of scaffolding, all material and labour at all levels and all heights (Ground, First, second and Headroom) etc., complete.	1240	SQM
XII.	<u>Form works</u> Supplying and erecting CENTERING for sides and soffits including supports and Shuttering in all floors levels and all heights (Ground, First, second and Headroom) with all cross bracings using marine plywoods or Equivalent mild steel sheets and supported by steel props and bracing etc., complete and as directed by engineer in-charge.		
62	Formwork to sides of concrete foundations, footings, bases of columns, raft and raft beams, sides and soffits (if any) of foundation and plinth beams; and similar work; vertical or to batter	4600	SQM
63	Formwork to sides of pillars, posts, struts, piers, columns and stanchions	2710	SQM

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64	Formwork to sides and soffits of floor or roof beams, beam hunching, girders, bressummers, lintels, cantilevers, shelves including sup- ports, overhangs , etc. also splays between floors and beams, etc.	4500	SQM
65	Formwork to soffits of suspended slabs such as roof slabs, floor slabs, landings and similar work ; not exceeding 200mm thick (Horizontal or sloping)	3220	SQM
66	Formwork to staircases with sloping or stepped soffits including risers and stringers (excluding landing)	430	SQM
67	Providing and laying screed concrete Supplying and applying slope making and protection to the water proofing treatment with 75mm average thickness screed concrete mixed with Conplast WL or equivalent material. Laying at all junction of vertical and Horizontal junctions/ offsets with CM 1:4 and admixed with Nito bond SBR or equivalent at a dosage of 1L/cement bag or as per the manufacturer's methodology and specifications. The specification and methodology should be approved by the engineer-in-charge before execution of work.	1270	SQM
68	Water Proofing : Supplying and applying including Labour ,Material & Tools cost For surface cleaning, One Flood Coat BD Aqua Seal Nano with Nano-Silicone based water repellent of Specific gravity: 1.02 - 0.005. and Two coats of BD Leak Shield Coat with Leak shield- Water based acrylic coating of Density: 1.35 - 0.005,Solid content: 65 - 70%,DFT per coat between micron depending on the substrate texture as per the manufacturer's methodology and specifications and as directed by the Engineer in charge.	1550	SQM
69	SS HAND RAILS : Fabricating and fixing of SS Grill of 316 grade. Balcony handrails, Staircase handrails square and circular pipe sections. All the joints and sections should be cut to length, welded and grinded wherever necessary etc., complete as per specifications & drawing.	403	RM

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70	Supplying and fixing of LPG Insulation pipe line with clamps, flanges, bolts & Hardware items, copper pipe with brass fittings, regulators with meter and cylinder room manifold with fittings, complete as per IS Standards and Fire norms and as per the direction of engineer incharge.	48	NOS
XIII	PLINTH PROTECTION		
71	Supply and fixing of kerb stone for the outer line of plinth protection. The kerb stone(1'0"x3"x1'6") should be placed on the PCC bed of M10 grade of 1'0" wide 3" thick, with the gap of approximately 10mm between each stone. The stone should be levelled and secured in place with additional CM 1:4 inside as required, with required backfilling and compacting around kerb stone using gravel. Any gap between the kerb stones shall be again filled with CM of 1:4 . Size of the kerb stone shall be 3"thick and a height of 1'6" and complete as directed by the engineer in charge. The rate shall be inclusive of PCC bed.	650	RM
72	PRECAST SLAB SUPPLY AND LAYING -Supply and laying of RCC M20 grade Precast Slab of size 1'6"X1'6"X3" height for plinth protection. The slabs shall be laid over well compacted gravel bed at FGL with suitable pointing at the joints. The rate shall include required earth cutting, leveling, compaction of earth with earth Ramer all included as directed by the engineer in charge.	570	SQM
XIII	PAVER BLOCKS		

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73	Providing and laying 60mm thick factory made chamfered edge cement concrete paver block of M-35 grade with colour, design & pattern as per Architectural recommendations in footpath, parks, lawns, drive ways or light traffic parking etc., of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over and including 50mm thick compacted bed of fine sand , compacting and proper embedding/ laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand.	1620	SQM
XIII	ROAD WORKS		
74	Laying and compacting 150 mm thick (compacted thickness) Granular Sub Base Course (DSB) grading as per Grade I as specified Table 400-1 of MoRTH specifications for road and bridge works, 2013, in a single layer over compacted subgrade with natural sand, crushed gravel, crushed stone, crushed slag, or combination thereof as per the grading required. The materials are mechanically mixed, spread and leveling on the subgrade by using motor grade of adequate capacity, and rolling with vibratory roller of capacity 80-100 KN static weight for achieving required compaction density of atleast 98% of the maximum dry density. Consolidating to required gradient and camber complete all as specified and directed with finished surface tolerances as per Table 900-1 of MoRTH, Including all test as per MoRTH Specification for Road and Bridge work, 2013.	2300	SQM

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75	Supply, Laying and compacting 300 mm thick (compacted thickness) WMM laid in four layers of 75mm each. Wet mix macadam (WMM) grading as per table 400-13 of MoRTH specifications for road and bridge works 2013 manufactured in WMM plant, material comprising of clean, crushed graded aggregate and granular material premixed with water to a dense mass, spreading with sensor paver and rolling with vibratory roller of capacity 80-100 KN static weight and consolidating to required gradient and camber complete all as specified and directed. the finished surface tolerances to be as per table 900-1 of MoRTH, Including all test as per MoRTH Specification for road and bridge works 2013.	2300	SQM
76	Providing and consolidating 50mm thick premix Dense Bituminous Macadam (DBM Grading-II) using min 4.1% VG 40 grade binder by weight of total mix, aggregate gradating as per grading 2 of Table 500-10 of MoRTH specification for road and bridge works 2013, rolled and compacted to required camber and gradient complete all as specified and directed, Including all test as per MoRTH Specification. The rates shall include the application of one coat primer coat over WMM to ensure proper binding of DBM with WMM.	2300	SQM
77	Bituminous premix asphaltic dense concrete 25mm consolidated thickness with 4.5% binder content by weight of total mix, rolled and compacted to required camber and gradient complete including all test as per MoRTH Specification. The rate shall include the following items also. Road markings shall be of hot applied thermoplastic materials with glass reflectorizing beads as per IRC 35 -2015. The quality of thermoplastic application shall be ensured by testing actual samples by random selection as per IRC 35 -2015. Supply and fixing cat eye solar reflective type of metal body alloy of size 100mm x 100mm x 20mm with PAMA strip lens reflector of model No. DA 972.0 fixed with and including MS stud of suitable size as per manufactures instructions with an interval as per IRC 35 -2015.	2300	SQM

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78	Applying evenly a tack coat of cationic bitumen emulsion (RS-1) confirming to IS:8887 at a rate of application of 0.2-0.3 kg/sqm on bituminous surface as specified in table 500-5 of MoRTH specification for road and bridge works 2013.using mechanical sprayer after cleaning of existing surface,thermo plastic marking & reflector as per MORTH specification.complete as directed by Engineer in Charge.	2300	SQM
79	Supply, Installation and commissioning of equipment's for Sewage Treatment Plant Using Sequential Batch Reactors (SBR) with a Treatment Capacity of 50,000 Liters/Day @ 3 batches @ 17000 lts per batch as given in technical specifications excluding civil works.	1	NOS
XVII	STRUCTURAL STEEL WORKS		
80	Supply, Fabrication, Erection, alignment and levels as per approved shop drawing of structural steel work in single or built-up section for Column, principal rafters, ladder, lightening supports, pipe supports, cable tray and platform, rain water pipe protections and misc. clamps, cleats comprising of Grade 345 Mpa plates of required thickness or single stanchions, built up of one beam or channel section with flange plates, caps, bases. splices, angle brackets, cleats (ISMB/ISMC/ISA) and other connections, etc., comprising of Grade 310mPa / 250mpa as per the drawing, conforming to IS:2062 and IS 226. Including Necessary permanent rivets, bolts, washers and nuts (HFSG 8.8 Gr OR EQUAL), handling, straightening, cutting, drilling holes, welding, shop assembly, transport to erection site, storing, leading to erection site and apply a coat of anti-corrosive epoxy primer paint of approved make. All as per Architectural recommendations prior to erection. (payment to be made on the basis of standard section weights for net weight erected in position excluding the weight of permanent bolts, nuts, all types of washers and packing plates etc.,) The rates quoted shall be including the cost of Epoxy paint in prepared surface with 2 coats (each coat of 25 micron) of Epoxy paint of approved make and shade as per Architectural recommendations over a coat of anticorrosive epoxy primer (25 micron) on structural steel	4360	KG

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	work, cold rolled section, gutter at all heights. The finished surface should show uniform and uneven coverage of paint shall not be acceptable.		
81	Supply, Fabrication, Erection, alignment and levels as per approved shop drawing of cold rolled steel sections of grade 345MPA from approved manufacturer of required thickness and shape, size for G.I. purlins including necessary cleats, nuts, bolts, predrilled holes lapping all complete as per drawing. The rates quoted shall be excluding the cost of painting, if any.	690	KG
82	Supplying and fixing in position to alignments and levels of foundation and anchor bolts of required length with anchor plates, nuts, washers, etc of grade HFSG 4.6 Grade (Or Equal) in rcc columns / Pedestals, coordinating with general builders work.	150	KG
XVIII	ROOFING SHEET		
83	Supply and Laying in roofing bare GALVALUME profiled sheet made out of 0.6 mm TCT 550 Mpa cold rolled sheet with hot dip metallic coating of aluminium zinc alloy 150gms/sqm having 975/1000mm cover width with 26mm high crest at 195/200mm c/c in lengths as approved by Architect also to suit to site requirements and fixed with necessary suitable imported galvanized carbon steel self-drilling & self-tapping screws of approved make confirming to ASTM 3566-1990 (class- III) of required diameter and length as approved all complete with EPDM sealing washers, foam fillers wherever necessary, butyl sealant at all laps, silicon sealant wherever necessary. Rate should include cost of plastic caps of approved colour of U.V resistance and button bolts all as per manufacturer's specification all complete as approved by the consultant, including accessories like Apron, Flashing, barge, trim plates, Gutter, down pipes etc., in colour as per architectural recommendations (Only laid area without overlapping will be measured for payment.).	120	SQM

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84	Supply, fixing and Installation of puff panel roof sheets made up 50mm thick Sandwich PUF panels with 0.5mm thick pre-painted colour coated galvanized steel sheets on both sides with 50mm thick layer polyurethane foam (density 40 +-2 kg/m ³) insulation manufactured on continuous line. The wall panel will be joined with tongue and groove joint with all accessories like U-flashing, L-flashing made up of PPGI Sheet of thickness 0.5mm. The top finished surface of will have guard film/protection sheet for protection against scratches during handling and transportation complete in all respects to entire satisfaction of Engineer in charge	35	SQM
WATER SUPPLY AND SANITARY WORKS			
85	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level PVC flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling, including painting of fittings and brackets, cutting and making good the walls and floors wherever required .	98.00	EACH
86	Providing and fixing of Semi Recessed miter wall hung wash basin size 460x360 mm with 15 mm C.P. brass Pillar cock, 32mm C.P brass waste coupling of standard pattern, including angle valve with riser pipes, connectors, adopters, all fittings etc cutting and making good the walls/slabs wherever required.	146.00	EACH
87	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS: 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :510x1040 mm bowl depth 300 mm	48.00	EACH
88	Providing and fixing 40mm dia P.V.C. waste pipe for sink and wash basin including P.V.C. waste fittings complete.	194.00	EACH
89	Providing and fixing 600x450 mm beveled edge mirror of superior glass complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers	146.00	EACH

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	complete.		
90	Providing and fixing soil, waste and vent pipes : Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989. This includes jointing of pipes & fittings, with lead caulked joints and the cost of cutting chases and making good the same including testing of joints complete 160 mm dia	1200.00	METER
91	Providing and fixing soil, waste and vent pipes : Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989. This includes jointing of pipes & fittings, with lead caulked joints and the cost of cutting chases and making good the same including testing of joints complete 100 mm dia	406.00	METER
92	Providing and fixing soil, waste and vent pipes : Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989. This includes jointing of pipes & fittings, with lead caulked joints and the cost of cutting chases and making good the same including testing of joints complete 75 mm dia	646.00	METER
93	Providing and fixing soil, waste and vent pipes : Centrifugally cast (spun) iron socket & spigot (S&S) pipe as per IS: 3989. This includes jointing of pipes & fittings, with lead caulked joints and the cost of cutting chases and making good the same including testing of joints complete 40 mm dia	406.00	METER
94	Providing and fixing terminal guard Centrifugally cast (spun) iron S&S as per IS - 3989 100 mm	34.00	EACH
95	Providing and fixing terminal guard Centrifugally cast (spun) iron S&S as per IS - 3989 75 mm	50.00	EACH

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96	Providing and fixing M.S. stays and clamps for centrifugally cast (spun) iron pipes of diameter 100mm	82.00	EACH
97	Providing and fixing M.S. stays and clamps for centrifugally cast (spun) iron pipes of diameter 75mm	82.00	EACH
98	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 with 100 mm inlet and 100 mm outlet Sand cast iron S&S as per IS: 3989	98.00	EACH
99	Providing and fixing PTMT Bottle Trap for Wash basin and sink. Bottle trap 38 mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 263 gms	194.00	EACH
100	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement weighing not less than 88 gms.	146.00	EACH
101	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement. 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	96.00	EACH
102	Providing and fixing M.S. holder bat clamp to sand cast iron/ cast iron (spun) pipes comprising of M.S. flat brackets made of 50x5 mm flat of specified shape, projecting 75 mm outside the wall surface and fixed on wall with 4nos, 6mm dia expansion hold fasteners, including drilling necessary holes in brick wall/ CC/ RCC surface and the cost of bolts etc. The pipes shall be fixed to the already fixed brackets with the help of 30 mm x1.6 mm galvanized M.S. flats of specified shape and of total length 420 mm and shall be fixed with M.S. nuts, bolts, & washers of size 25x6 mm, one bolts on each side of the pipe. Total bracket length 580 mm (for single 100 mm dia pipe)	146.00	EACH

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103	Providing and fixing M.S. holder bat clamp to sand cast iron/ cast iron (spun) pipes comprising of M.S. flat brackets made of 50x5 mm flat of specified shape, projecting 75 mm outside the wall surface and fixed on wall with 4nos, 6mm dia expansion hold fasteners, including drilling necessary holes in brick wall/ CC/ RCC surface and the cost of bolts etc. The pipes shall be fixed to the already fixed brackets with the help of 30 mm x1.6 mm galvanized M.S. flats of specified shape and of total length 420 mm and shall be fixed with M.S. nuts, bolts, & washers of size 25x6 mm, one bolts on each side of the pipe. Total bracket length 1040 mm (for three 100 mm dia pipes)	146.00	EACH
104	Providing & fixing UPVC pipes and all kind of fittings as per ASTM 1785 & Schedule 80 complete as per specification, This includes jointing of pipes & fittings with solvent and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Internally exposed 40 mm nominal outer dia Pipes	160.00	METER
105	Providing & fixing UPVC pipes and all kind of fittings as per ASTM 1785 & Schedule 80 complete as per specification, This includes jointing of pipes & fittings with solvent and the cost of cutting chases and making good the same including testing of joints complete. Internally exposed 50 mm nominal outer dia Pipes	240.00	METER
106	Providing & fixing UPVC pipes and all kind of fittings as per ASTM 1785 & Schedule 80 complete as per specification, This includes jointing of pipes & fittings with solvent and the cost of cutting chases and making good the same including testing of joints complete. Concealed pipes. 15 mm nominal outer dia Pipes	362.00	METER
107	Providing & fixing UPVC pipes and all kind of fittings as per ASTM 1785 & Schedule 80 complete as per specification, This includes jointing of pipes & fittings with solvent and the cost of cutting chases and making good the same including testing of joints complete. Concealed pipes.	410.00	METER

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	20 mm nominal outer dia Pipes		
108	Providing & fixing UPVC pipes and all kind of fittings as per ASTM 1785 & Schedule 80 complete as per specification, This includes jointing of pipes & fittings with solvent and the cost of cutting chases and making good the same including testing of joints complete. Concealed pipes. 25 mm nominal outer dia Pipes	166.00	METER
109	Providing & fixing UPVC pipes and all kind of fittings as per ASTM 1785 & Schedule 80 complete as per specification, This includes jointing of pipes & fittings with solvent and the cost of cutting chases and making good the same including testing of joints complete. Concealed pipes. 32 mm nominal outer dia Pipes	120.00	METER
110	Providing and fixing G.I. pipes complete with G.I. fittings and clamps with inclusive of cutting and making good the walls etc. 32 mm dia nominal bore	880.00	METER
111	Providing and fixing G.I. pipes complete with G.I. fittings and clamps with inclusive of cutting and making good the walls etc. 40 mm dia nominal bore	400.00	METER
112	Providing and fixing G.I. pipes complete with G.I. fittings and clamps with inclusive of cutting and making good the walls etc. 50 mm dia nominal bore	200.00	METER
113	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete : 25 to 40 mm nominal bore	125.00	EACH
114	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete : 50 to 80 mm nominal bore	40.00	EACH

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115	Providing and fixing C.P. brass stop cock (concealed) of standard design conforming to IS:8931. 15 mm nominal bore	82.00	EACH
116	Providing and fixing gun metal gate valve with C.I. wheel of (screwed end) 32 mm nominal bore	41.00	EACH
117	Providing and fixing gun metal gate valve with C.I. wheel of (screwed end) 40 mm nominal bore	40.00	EACH
118	Providing and fixing gun metal gate valve with C.I. wheel of (screwed end) 50 mm nominal bore	40.00	EACH
119	Providing anti corrosive wrapping & coating as per IS 15337 with 150mm wide and 4mm THICK TAPE	1480.00	METER
120	Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete 32 mm nominal bore	41.00	EACH
121	Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete 40 mm nominal bore	40.00	EACH
122	Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete 50 mm nominal bore	16.00	EACH
123	Wall mixer 2 in 1 : Supply, fixing, testing and commissioning of C.P. Brass Wall Mixer with Provision For Over Head Shower With 115mm Long Bend Pipe complete and wall flanges including bath spout, concealed body & exposed parts, connectors, adopters, fittings, fixtures, all complete etc.	96.00	EACH

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124	Single Flow Shower Head : Supply, fixing, testing and commissioning of C.P. Brass Single Flow Over head shower - 75mm dia (Rub bit Cleaning System) including shower arm, connectors, adopters, fittings, fixtures, with necessary fittings and flanges etc., complete	96.00	EACH
125	Two way Bib cock : Supplying, fixing testing and commissioning of C.P.Brass two way bib cock with wall flange and aerator type with all fittings and fixtures complete	98.00	EACH
126	C.P.Brass Health faucet : Supply, fixing, testing and commissioning of Health Faucet near EWC consisting of 1mtrs. Long C.P. flexible tube with wall hook with all fittings and fixtures complete conforming to IS standards.	98.00	EACH
127	Provision of plumbing pipe lines and valves for geyser including connectors, adopters, fittings, fixtures, all complete etc.	96.00	EACH
128	Supply of three layer insulated polyethylene water storage tanks made from high quality material, durable polyethylene with IS specification IS 10701/96 the tank is meant for outdoor (or)indoor use complete with removable hinged top locking arrangement and to make provision to fix water supply pipe lines and including all PVC specials pugs, screws nails to fix the tank etc., complete. The rate shall be inclusive of all materials, labour conveyance hoisting and fixing charges etc. with capacity of 1000 litres	50.00	EACH
129	Providing and fixing C.P. brass bib cock of quality conforming to IS:8931 : 15 mm nominal bore	43.00	EACH
130	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.	390.00	EACH

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131	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg, 180x150 mm size P type With common burnt clay bricks of class designation 7.5	50.00	EACH
132	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete Inside dimensions 500x700 mm and 45 cm deep for pipe line with one or two inlets : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5 The rate is inclusive of Foundation, PCC, Brickwork and plastering work.	52.00	EACH
133	Extra for depth beyond 45 cm of brick masonry chamber : For 500x700 mm size With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	48.00	EACH
134	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	250.00	KG
135	Supply and fixing in position the Single Acting Air Valve of large orifice type Cast iron body pressure rating of 10 Kg/Cm ² , 16 Kg/Cm ² conforming to IS 14845 : 2000 manufacturing standards, and including all unions and effective proper connections.	17.00	NOS

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	32 mm nominal bore		
136	Supply and fixing in position the following Solenoid Valves with Brass body, SS-304 spring, pressure limit of 12 Kg/Cm ² and assembled with NBR seal, Include power cable, control cable, level probe/sensor/ electrode with all fitting & accessories complete set 32 mm nominal bore	17.00	NOS
139	Providing, installing, testing and commissioning of digital water level indicator for water tank.	17.00	NOS
138	Providing & fixing UPVC pipes and testing inlet, outlet, vent and overflow pipes , fittings with frame and cover for overhead water tank complete accessories comprising of the following. All Puddle flanges to be hot dip galvanized	49.00	NOS
139	Supply and fixing in position the following lever operated, full flow, quarter turn, Ball Valves of Forged Brass body and chrome plated brass ball with chrome plated steel handle with PVC sleeve and PTFE seal tested to 25 Kg/Cm ² pressure rating, conforming to BS : 5159 manufacturing standards, including all unions and effective proper connections. 20 mm nominal bore	42.00	NOS
140	Supply and fixing in position the following lever operated, full flow, quarter turn, Ball Valves of Forged Brass body and chrome plated brass ball with chrome plated steel handle with PVC sleeve and PTFE seal tested to 25 Kg/Cm ² pressure rating, conforming to BS : 5159 manufacturing standards, including all unions and effective proper connections. 25 mm nominal bore	42.00	NOS

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141	Supply and fixing in position the following lever operated, full flow, quarter turn, Ball Valves of Forged Brass body and chrome plated brass ball with chrome plated steel handle with PVC sleeve and PTFE seal tested to 25 Kg/Cm ² pressure rating, conforming to BS : 5159 manufacturing standards, including all unions and effective proper connections. 32 mm nominal bore	42.00	NOS
142	Supply and fixing in position the following lever operated, full flow, quarter turn, Ball Valves of Forged Brass body and chrome plated brass ball with chrome plated steel handle with PVC sleeve and PTFE seal tested to 25 Kg/Cm ² pressure rating, conforming to BS : 5159 manufacturing standards, including all unions and effective proper connections. 40 mm nominal bore	40.00	NOS
143	Supply and fixing in position the following lever operated, full flow, quarter turn, Ball Valves of Forged Brass body and chrome plated brass ball with chrome plated steel handle with PVC sleeve and PTFE seal tested to 25 Kg/Cm ² pressure rating, conforming to BS : 5159 manufacturing standards, including all unions and effective proper connections. 50 mm nominal bore	40.00	NOS
144	Providing and fixing on wall face unplasticized Rigid PVC rain water pipes and fittings conforming to IS : 14735 Type B, including solvent cement joint, GI supports, accessories complete etc. 160 mm dia	332.00	RM

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145	<p>Hydro pneumatic System for Multiple Overhead tank filling Supply, installation, testing, commissioning of the Variable Speed Hydro pneumatic system (Individual VFD for Each Pump). Booster should minimum consist of the components as per the below specifications. Complete system shall be tested at the manufacturer's factory, in accordance to the provisions of the appropriate standard before delivery. Manufacturer should have facility of witness test with proper test bed.</p> <p>Vertical In Line Multistage Centrifugal pumps with IE5 efficiency class Motor as per IEC 60034-30-2 standard. Pump should come with integrated VFD & Control panel with each pump.</p> <p>Low Carbon steel Pre-pressurized bladder or diaphragm type pressure vessel complete with pre-charged nitrogen gas/Air to the design pressure settings.</p> <p>Each pump shall have individual PI controller & integrated VFD and with IE5 efficiency class motor as per IEC standard Pipe work and valves, pressure transmitter, pressure gauge, check valve, gate valve and all necessary fittings etc to the satisfactory operation of the system and to make system as complete. Only supply & delivery line will be connected to start the system</p> <p>The pump performance curve shall be complying with the tolerance according to ISO 9906:2012, 3B.</p> <p>Per Pump Flow Rate -10 m³/hr (1W+1S), operating Head-25m & maximum head - 50m</p>	2.00	EACH
146	<p>Supplying, fixing and commissioning of suitable model for Water Dispenser with purified normal hot and cold water outlets including all fittings and accessories complete., Power supply of 230 Volt Storage tank Capacity of Normal & Cold 10 Ltrs respectively and Purification Method RO & UV with 5 stages of a).Micron, b).Carbon, c).Anticipant, d). RO Membranes e). UV</p>	1.00	EACH
ELECTRICAL WORK			
	POINT WIRING		

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147	Supply , wiring, testing and commissioning for light Point/fan Point/exhaust fan Point/call bell Point with 1.5 sq mm FRLS PVC insulated copper conductor single core cable in concealed conduit medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the Point with 1.5 sqmm FRLS PVC insulated copper conductor single core cable as required.(Maximum up to 7 Meter length)	1318	POINT
148	Supply , wiring, testing and commissioning for twin control light Point with 1.5 sq mm FRLS PVC insulated copper conductor single core cable in concealed conduit medium class PVC conduit, 2way modular switch, modular plate, suitable GI box and earthing the Point with 1.5 sq mm FRLS PVC insulated copper conductor single core cable etc as required.	264	POINT
149	Supply and wiring of 2 X 1.5 sq. mm + 1 X 1.5 sq. mm sizes of FRLS PVC insulated copper conductor Wiring for circuit/submain wiring along with earth wire and concealed conduit medium class PVC conduit as required.	546	METER
150	Supply and wiring 2 X 2.5 sq. mm + 1 X 2.5 sq. mm sizes of FRLS PVC insulated copper conductor Wiring for circuit/submain wiring along with earth wire and concealed conduit medium class PVC conduit as required.	4029	METER
151	Supply and wiring 2 X 4 sq. mm + 1 X 4 sq. mm sizes of FRLS PVC insulated copper conductor Wiring for circuit/submain wiring along with earth wire and concealed conduit medium class PVC conduit as required.	2461	METER
152	Supply and wiring 2 X 10 sq. mm + 1 X 6 sq. mm sizes of FRLS PVC insulated copper conductor Wiring for circuit/submain wiring along with earth wire and concealed conduit medium class PVC conduit as required.	680	METER
153	Supplying and drawing following pair 0.5 sq mm FRLS PVC insulated 2 Pair annealed copper conductor, unarmored telephone cable in the existing concealed conduit PVC conduit as required.	990	METER

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154	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing concealed conduit / PVC conduit as required.	1200	METER
155	Supplying and fixing of following sizes of medium size 20mm PVC conduit along with accessories in concealed conduit including cutting the wall and making good the same in case of recessed conduit as required.	980	METER
156	Supplying and fixing of following sizes of medium size 25PVC conduit along with accessories in concealed conduit including cutting the wall and making good the same in case of recessed conduit as required.	970	METER
157	Telephone Socket outlet - Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.	53	EACH
158	TV Antenna socket outlet - Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.	144	EACH
159	Supplying and fixing stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	199	EACH
160	Supplying and fixing of 1 or 2 Module (75mm X 75mm) size/ modules, GI box along with modular base & cover plate for modular switches in recess etc as required.	250	EACH
161	Supplying and fixing 3 Module GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.	682	EACH
162	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and	536	EACH

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	15/16 A modular switch, connections etc. as required.		
163	BUZZER - Supplying and fixing call bell/ buzzer suitable for single phase, 230 volts, complete as required.	48	EACH
164	M.V. DANGER NOTICE PLATE Providing and fixing MV danger notice plate of 200 mm x 150 mm made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides , and with inscription in single red colour on FRONT side as required.	16	EACH
165	CABLE TRAY - Supplying and installing of 150 mm width X 50 mm depth X 1.6 mm thick perforated Hot Dipped Galvanized Iron cable tray (Galvanization thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.	80	METER
	EARTHING		
166	Earthing with GI earth pipe 4.5 meter long 40mm dia including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	43	EACH
167	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	175	METER
	LIGHTNING CONDUCTOR		
168	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc, complete as required.	16	EACH
171	Providing and fixing G.I. tape 20 mm x 3 mm thick on parapet of surface of wall for lightning conductor complete as required.	400	METER

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	(for horizontal run)		
170	Providing and fixing G.I. tape 20 mm x 3 mm thick on parapet of surface of wall for lightning conductor complete as required. (for vertical run)	208	METER
171	Providing and fixing testing joint made of 20 mm x 3 mm thick G.I. strip, 125 mm long with 4 nos. of G.I. bolts nuts check nuts and spring washers etc, complete as required.	16	EACH
172	Supply and fixing of surface mounted 20 Watts LED High Efficiency LED Batten with CRCA housing and high efficiency polycarbonate diffuser. The system lumens shall not be less than 2000 lumens with (6500K) 'CCT and wattage shall not be less than 20W as per approved make.	219	EACH
173	Supply and fixing of Round type ceiling mounted down Light 13 Watts Surface mounted LED luminaire with efficient optics , System lumen efficacy > 100Lumen/Watt , System Luminous flux of 1300 lumens and System Wattage shall not be less than 13W as per approved make.	192	EACH
174	Supply and fixing of Round type ceiling mounted down Light 6 Watts Surface mounted LED luminaire with efficient optics , System lumen efficacy > 100Lumen/Watt , System Luminous flux of 1300 lumens and System Wattage shall not be less than 6W as per approved make.	192	EACH
175	Supply and fixing of Wall mounted type Periphery lighting (Weather Proof) 32 Watts. The wall mount shall be installed with clamp bolt nets. Along with LED light with dia cast aluminium housing, inbuilt driver, system wattage maximum of 32 Watts as per approved make.	62	EACH
176	Supply and fixing of 12 Watts Wall mounted LED luminaire with efficient optics , System lumen efficacy > 100Lumen/Watt , System Luminous flux of 12000 lumens and System Wattage shall not be less than 12W as per approved make.	338	EACH

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177	Supply and fixing of Foot Light 5 Watts Wall mounted type Food lamp LED luminaire with efficient optics , System lumen efficacy > 70Lumen/Watt , System Luminous flux of 3500 lumens and System Wattage shall not be less than 5W As per Approved make.	96	EACH
178	Supply and fixing of Wall mounted Bulk head Light 9 Watts LED The luminaire housing should made of High pressure die cast Aluminium with polycarbonate front diffuser. The total power consumption should not exceed 10W as per approved make.	42	EACH
179	Supply and fixing of 10 Watts LED Mirror light. High Efficiency LED Batten with CRCA housing and high efficiency polycarbonate diffuser.' The system lumens shall not be less than 1000 lumens with (6500K) 'CCT and wattage shall not be less than 9W as per approved make.	96	EACH
	CEILING FAN		
180	Supply and fixing of 1200mm sweep - 5 star rated Energy Saving Ceiling fan, complete with 300mm down rod, canopies, shackles and blades and without regulator etc. complete as required as per approved make.	192	EACH
181	Supply and fixing of 1400mm sweep - 5 star rated Energy Saving Ceiling fan, complete with 300mm down rod, canopies, shackles and blades and without regulator etc. complete as required as per approved make.	9	EACH
	EXHAUST FAN		
182	supply and fixing of 150 mm sweep with Louver Exhaust fan medium Duty air vent with double bearing and dimetallic blade with louvers. as per approved make.	98	EACH
183	supply and fixing of 300 mm sweep Exhaust fan Heavy Duty air vent with double bearing and dimetallic blade. as per approved make.	48	EACH
	DISTRIBUTION BOARDS		

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184	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, 6W TPN with Selector Switch distribution Board, 415 volts, on surface/recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. Incoming : 63A 4P MCB - 1 No 40A 100mA DP RCCB : 3 Nos Outgoing : 6A 10kA SP MCB - 9 Nos 16A 10kA SP MCB - 9 Nos	51	EACH
	MV CABLES SUPPLY		
185	Supply of 4 Core 6 Sq.mm, Cu. Ar. Cable PVC / XLPE insulated armored cables with Copper conductors for working voltages up to and including 1100V confirming to IS 1554 part I 1988 for PVC and IS 7098 Part I for XLPE.	523	METER
	MV CABLE END TERMINATION		
186	Supply and making end termination with brass compression gland and copper lugs for 4 Core 6 Sq.mm, Cu. Ar. Cable PVC insulated and PVC sheathed/XLPE aluminium conductor cable of 1.1 KV grade as required.	76	EACH
	PANELS		
187	Supply, installation, testing and commissioning of Metering Panel Boards suitable for 415V/230V, 3 phase/single phase, 4 wire/2 wire, 50Hz distribution system. The panel shall be free standing, floor mounting, sheet metal enclosed, flush front with aluminium busbars, separate earth bus shall be provided throughout the length of the panel. The incoming and the outgoing feeder breakers, HRC fuse units, MCBs, indicating lamps, meters etc. shall be accommodated in a modular multi tier arrangement. A minimum of 400mm clearance shall be given from the floor level to the bottom most termination point. The painting shall be done in conformity with IS code. Adequate size cable alley shall be provided all round the panel	8	EACH

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	<p>and at the back for easy bending and terminations. The outgoing feeders inside the panel shall be connected through solid busbars. Flexible cable links are not acceptable. Busbars shall be provided with PVC heat shrinkable sleeves or heat resistant insulated paint. The panels shall be suitable for cable entry from top / bottom. The copper earth strip of 25mm x 3mm shall run throughout perimeter of the bottom of the panel.</p> <p>METERING BOARD PANEL - KSEB Norms</p> <p>Metering Board comprises</p> <p>Incoming One (1) - 125A, TPN Fuse Switch unit as required.(EB Incomer)</p> <p>Three (3) - Set indicating lamps with MCB</p> <p>One (1) - TPN 125A, Aluminium bus bars (0.8A/sqmm)</p> <p>Outgoing Feeders :</p> <p>Seven (7) - Outgoing feeders compile with EB norms 63A,TP HRC Fuse with Suitable Amps Links With Netural Link - 7 Sets</p> <p>Three phase KSEB TVM meter - 7 nos Provision Only</p> <p>63A, 4P, 10kA, MCB - 7 nos</p> <p>One (1) - Outgoing feeders compile with EB norms 32A,TP HRC Fuse with Suitable Amps Links and Netural Link - 1 Set</p> <p>Single phase KSEB TVM meter - 1 no Provision Only</p> <p>32A, SP, 10kA, MCB - 1 no</p>		
188	<p>Supply and erection of powder coated floor mounting 8W SPN Common DB made of 1.6mm thick CRCA sheet steel dust and vermin proof enclosure with suitable size of aluminium bus bar for main and interconnecting switchgear, 3 phase indication lamp and earthing as per requirement of Local KSEB, CEIG and IE regulation. For the provision of following rated switchgear in the panel</p> <p>Incoming</p> <p>40A DP 10KA MCB -1No</p> <p>40A 100mA DP 10KA RCCB -1No</p> <p>Outgoing</p> <p>6A SP 10KA MCB - 3Nos</p> <p>6A SP 10KA MCB - 3Nos</p>	9	EACH
	TV CABLE		

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189	Supply and wiring for TV System using RG 11 Cable in existing conduit for all incoming cables.	2776	METER
	TV Tap-off Box		
190	Supply and installation of 10 way way TV tap-off box in the ducts with painting etc. as required.	8	EACH
	TELEPHONE		
191	Supply, Installation, testing and Commissioning of 20 Pair crone connector with G.I box complete.	10	EACH
	SAFETY EQUIPMENTS		
192	supply and delivery of the following safety equipment with allied material as required by the statutory authority like CEIG / Electrical inspectorate 5 kg capacity DCP type fire extinguisher -2 Nos	8	SET
193	supply and delivery of the following safety equipment with allied material as required by the statutory authority like CEIG / Electrical inspectorate First aid box small size -1 Set	8	EACH
194	supply and delivery of the following safety equipment with allied material as required by the statutory authority like CEIG / Electrical inspectorate First aid resuscitation chart laminated both in local language and English -1 Set	8	EACH
195	supply and delivery of the following safety equipment with allied material as required by the statutory authority like CEIG / Electrical inspectorate 2mm thick ISI marked Electrical purpose insulating mat (2mx 1m) confirming to IS 15652	8	EACH
	External Electrical		

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196	<p>Pump Room DB</p> <p>Supply and erection of powder coated wall mounted DB panel made of 1.6mm thick CRCA sheet steel dust and vermin proof enclosure with suitable size of Aluminium bus bar with suitable bus bar insulators and sleeve for main and interconnecting Switchgear, earthing as per requirement of CEIG and IE regulation. For the provision of following rated switchgear in the panel.</p> <p>INCOMING</p> <p>1 Set of 63A 4P MCB</p> <p>OUTGOING</p> <p>40A 4P MCB 10kA - 1 No</p> <p>32A 4P MCB 10kA - 4 Nos</p>	1	EACH
197	<p>OUT DOOR TYPE STREET LIGHTING CONTROL DB</p> <p>Supply and erection of powder coated floor mounting out door type lighting control panel made of 1.6mm thick CRCA sheet steel dust and vermin proof enclosure with suitable size of Aluminium bus bar with suitable bus bar insulators and sleeve for main and interconnecting Switchgear, earthing as per requirement of CEIG and IE regulation. For the provision of following rated switchgear in the panel.</p> <p>INCOMING</p> <p>1 Set of 40A 4P MCB and 40A 4P Power Contractor with A/M Selector switch, Timer with control wiring of ON/OFF/AM Indicator lamp</p> <p>OUTGOING</p> <p>25A 4P MCB 10kA - 1 No</p> <p>10A DP MCB 10kA - 2 Nos</p>	1	EACH

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198	<p>Supply, installation, testing and commissioning of 6 Way Outdoor type Feeder Pillar Boards suitable for 415V, 3 phase/single phase, 4 wire, 50Hz Double door EB distribution system. The panel shall be free standing, sheet metal enclosed, flush front with aluminium busbars, separate earth bus shall be provided throughout the length of the panel. The incoming and the outgoing feeder breakers, HRC fuse units with Link shall be accommodated in a modular multi tier arrangement. The painting shall be done in conformity with IS code. The outgoing feeders inside the panel shall be connected through solid busbars. Flexible cable links are not acceptable. Busbars shall be provided with PVC heat shrinkable sleeves or heat resistant insulated paint. The panels shall be suitable for cable entry from top / bottom. The copper earth strip of 25mm x 3mm shall run through out perimeter of the bottom of the panel.</p> <p>6 Way Outdoor type Feeder Pillar Box Incomer - 400 Amps TPN Switch Fuse Unit with DIN type fuse links & With suitable size inter connecting aluminium bus bar.. 1 No Outgoing - 125 Amps TPN Switch Fuse Unit with DIN type fuse links with suitable size inter connecting aluminium bus bar.. 6 Nos TPN main Bus bar : Aluminium Rating :400 Amps</p>	2	EACH
199	<p>45W LED Street Light with 7m octagonal pole with single arm of 1.5m length, 8 degree tilt. The pole shall be with the following specifications:7mtr GI octagonal pole, Height:7000mm, Top:70mm, Bottom:175mm, Thickness: 3mm, Base Plate : 275x275x16mm, Foundation Bolt details : Length750mmx4nos Dia 24mm</p>	12	EACH
200	<p>Supply and laying of 3.5Cx70sqmm Al Ar XLPE Cable direct in one metre depth ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.</p>	400	RM
201	<p>Supply and laying of 3.5Cx185sqmm Al Ar XLPE Cable direct in one metre depth ground including excavation, sand cushioning, protective covering and refilling the trench etc as</p>	200	RM

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	required.		
202	Supply and laying of 4Cx4sqmm Cu Ar XLPE Cable direct in one metre depth ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.	400	RM
203	Supply and making of 3.5Cx70sqmm end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed/XLPE aluminium conductor cable of 1.1 KV grade as required.	16	EACH
204	Supply and making of 3.5Cx185sqmm end termination with brass compression gland and aluminum lugs for following size of PVC insulated and PVC sheathed/XLPE aluminum conductor cable of 1.1 KV grade as required.	4	EACH
205	Supply and making of 4Cx4sqmm end termination with brass compression gland and copper lugs for following size of PVC insulated and PVC sheathed/XLPE aluminium conductor cable of 1.1 KV grade as required.	24	EACH
206	LT APPROVAL Preparing and obtaining the Local approval from CEIG/KSEB to carryout electrical installation and duly submitting the drawing for approval including necessary inspection fees for inspection and obtaining Safety certificate for entire new installation	1	LS

Note: Bidders must quote lumpsum amount for all the activities mentioned in BOQ above (exclusive of GST) in the commercial bid on SRM. Price break up may be submitted upon demand from BEML during the process of Reverse Auction.
