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TENDER FOR
MODIFICATION WORK AT FIRST FLOOR
OF
NATIONAL HEALTH MISSION STATE OFFICE
TRIVANDRUM DISTRICT, KERALA

IFB NO. HLL/CHO-PROJ/HCD/NHM-SO/TVM/2024-25, DT. 26.09.2024

HLL LIFECARE LIMITED
(A GOVT. OF INDIA ENTERPRISE)
HLL Bhavan, No26/4, Tambaram-Velachery Main Road,
Pallikaranai, Chennai 600 100, Tamilnadu
pskerala@lifecarehll.com
Web: www.lifecarehll.com
Ph: +914429813732/34/33

SEPTEMBER 2024

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INVITATION FOR BIDS (IFB)

HLL Lifecare Limited (HLL), a Government of India Enterprise, on being selected as Project Management Consultant (PMC) for Modification Work At First Floor Of National Health Mission State Office Trivandrum District, Kerala invites bids from the eligible, competent and experienced Suppliers/Contractors who are capable to do the following work meeting the requirements as per our tender.

1. Sealed and super scribed tenders, under Single Bid system, is invited from the eligible contractors, for Modification Work At First Floor Of National Health Mission State Office Trivandrum District, Kerala, the detailed work is given as in the **Price Schedule** to this Tender.

2. The bid documents will be available up to 15.30 Hrs. on the previous working day of the opening of the bids. The scheduled date for issue, receipt and opening of bids is as follows.

1	Name of Work	Modification Work At First Floor Of National Health Mission State Office Trivandrum District, Kerala
2	Location of Work	NHM State Office Trivandrum
3	Estimated Cost of the Work	Rs. 2,73,577 (Excl. of GST)
4	Period of completion	15 days from the date of PO/Site
5	Bid Security	Rs.6,900/-
6	Bid submission fee (tender fee)	Rs. 500 + GST @18% = Rs. 590/-
7	Eligibility criteria for Bidders	As per ITB S.No.6 (Part I)
8	Last date and time for receipt of bids	08-10-2024 at 14.00 hrs.
9	Date and time of opening of bids	09-10-2024 at 14.30 hrs.

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3. For MSME registered bidders, the proof of registration in the line of work and monitory limit shall be attached. The tender documents will be free of cost for them and such bidders will be exempted from EMD.
4. Address for communication, receipt and place of opening of bids:

ASSOCIATE VICE PRESIDENT (MD&Prj.),
HI-CARE DIVISION,
HLL Bhavan, No26/4, Tambaram-Velachery Main Road,
Pallikaranai, Chennai 600 100, Tamilnadu
pskerala@lifecarehll.com
Web: www.lifecarehll.com

5. The completed and sealed bid documents should be submitted to Associate Vice President (MD&PRJ.), in the above address. The outer cover should bear the Enquiry No, closing date and General description of item tendered, and the words "DO NOT OPEN BEFORE" 15.30 Hrs (IST) on (Indicate the Closing Date). Bids received after due date and time will be rejected.

6. Bids will be opened in the presence of Bidders representative(s) who choose to

7. Attend on the specified date and time, at the office of HLL at the address given in Clause 2 (d) above.

8. In the event of the date specified for bid receipt and opening being declared as a closed holiday for the above purchaser's office, the due date for submission of bids and opening of bids will be the following working day at the appointed times.

9. HLL may, at its discretion, extend this deadline for submission of bids by amending the Bid Documents or any other reasons, in which case all rights and obligations of HLL and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

10. HLL will not be held responsible for the postal delay, if any, in the delivery of the bidding document or the non-receipt of the same. Bids sent by Telex/Fax/Telegraph will not be accepted.

11. The company reserves the right to club or split the items of works, change the qualifying criteria at their discretion and to reject or cancel the Invitation for bids without assigning any reason hereof.

Associate Vice President (MD&Prj.)

Part I
INSTRUCTIONS TO BIDDERS

1. General

(i) Name of the work is "Modification Work at First Floor of National Health Mission State Office Trivandrum District, Kerala".

(ii) The bidders are advised to quote their rates for Supply in the format enclosed as Annexure-I

2. Submission Of Tender

Tenders shall contain the information/ documents as per clause No. 3 below and Price Bid will contain Estimated Quantities that are given in the Schedule of Quantities against for which the agency shall quote the rates in figures as well as in words in the format enclosed.

3. Validity Of Offer

Tender submitted by tenderers shall remain valid for acceptance for a minimum period of 120 days from the date of opening of the tenders. The tenderers shallnot be entitled during the said period of 120 days, to revoke or cancel their Tender or to vary the Tender given or any term thereof, without the consent inwriting of the Owner. In case of tenderers revoking or canceling their tendersor varying any terms in regard thereof without the consent of owner in writing, HLL shall forfeit Earnest money paid by them along with their tender without giving any notice.

4. Acceptance/ Rejection of Tender

a. HLL does not bind itself to accept the lowest tender.
b. The HLL also reserves the right to accept or reject any or all tenders without assigning any reason whatsoever.
c. HLL also reserves the absolute right to reject any or all the tenders at any time solely based on the past unsatisfactory performance by the bidder(s) the opinion/decision of HLL regarding the same shall be finaland conclusive.
d. It will be obligatory on the part of the tenderer to sign the tender documents for all the components & parts. After the work is awarded he will have to enter into an agreement on Performa to be provided by the HLL for work awarded, on anon-judicial stamp paper of requisite value at his own cost within ten days from date of receipt of acceptance order or before the work is undertaken.

5. Tender Document Fees:

Tender fee (Non-refundable) as per the tender conditions shall be paid separately, thru **DD (Only)** transfer in the following HLL A/c details:

Name of Bank :	HDFC Bank Limited
A/c number :	00630330000035
IFSC Code :	HDFC0000063
Branch name :	Commercial Branch, Vazhuthacaud, Thiruvanathapuram

- MSME units interested in availing exemption from payment of Tender Fee should submit a valid copy of their Udyog Aadhaar registration certificate as mentioned in the NIT. But the Party has to provide Security deposit if Tender is awarded to them. Security deposit will be 5 % of the order value.

- Any bid not accompanied by the Tender Fee as notified, shall be rejected as nonresponsive.

- Tender Fee remitted will not be refunded

- Each bid must be accompanied by EMD. Any Bid not accompanied by an acceptable Bid Security (EMD) shall be rejected as non-responsive.

6. Eligibility Criteria

Technical Bid should contain copy of documents in proof of experience and duly filled and signed copy of documents specified in **Part II.**

Qualification Criteria for contractors / firms

The bidder should be fulfilling the following preconditions and must also upload/ submit documentary evidence in support of fulfillment of these conditions while submitting the bid.

SN	Eligibility Criteria	
1	Bidder should have a valid Certificate of the following:	
	a.	GST Registration
	b.	IT PAN Card
	Note:	Copy of valid certificates for the above shall be submitted as proof.
2	Has the Contractor/Firm/Company ever been blacklisted by the Govt./or the registering authority. (Yes/ No) If NO, the duly signed declaration form as per **item no-1 of part- III is** to be attached.	
	Note:	Bidder quoting should not have a record of poor performance such as abandoning work, not properly completing the contract, termination, financial failures/ weaknesses, etc., in the last one year prior to the date of tender opening. In any case if it is observed, it will be considered a reason for rejection. HLL has the full right to assess the performance of the work by the bidder and the decision shall be binding upon the bidder.

3	The duly signed acceptance forms as per **item no-2 of Part-III** to be attached
4	Completion Period Declaration duly filled as per **item no-3 of Part-III** to be attached
5	Duly filled and signed copy of requisition for e-payment form along with clear and visible scan copy of cancelled cheque as **per item no-4 Part-III** of this bid document in original.
6	The duly signed No Deviation Certificate as per **item no-5 of Part-III** to be attached
7	**Part IV -** List of approved make shall be duly signed with seal to be attached

Part II

CONDITIONS OF CONTRACT

1. PRICE

The price quoted should be inclusive of all material cost, loading and unloading charges, all applicable taxes and other levies, Laboure charges, insurance, Installation and commissioning charges etc. Price quoted should be firm without any escalation till the order is completely executed.

2. TAXES/DUTIES/LEVIES

The contractor shall be entirely responsible for all applicable taxes including GST, duties, license fees etc. incurred until successful completion of contract.

3. ESCALATION

The rates quoted by the Contractor in the contract documents shall be final and shall not be subjected to any change due to the increase in Laboure wages or inflation in the cost of materials or any other price variations due to any reason during the stipulated time period of the contract or during the extended time period of completion.

Rates quoted should be inclusive of all cost of materials, Tools/Equipment's labor charges, conveyance to site, handling charges, loading and unloading charges, hiring charges, clearing of debris, statutory payments etc.

4. COMPLETION TIME

The items/Work as per the tender specifications shall be completed within a period of **15 days** from the date of PO/Site clearance.

Time being the essence of the Contract, the work/delivery of items, stipulated should be strictly adhered to. Delay in delivery/non delivery/incompletion of the Specified Item/work will cause loss and/or damage to Purchaser. The delivery period shall be counted from the date of sending of Purchaser's intimation of acceptance of the Supplier's Notification of Award (Letter of Intent (LOI) and / or order).

5. PAYMENT TERMS

All Payments to be disbursed by the Client Department (District Programme Manager, National Health Mission, Thiruvananthapuram) against recommendation of the

Project Management Consultant (HLL) based on the tender terms & conditions.
The invoice shall be addressed to:

National Health Mission,
Office of the District Programme Manager,
W&C Hospital Compound,
Thycaudu P.O,
Thiruvananthapuram - 695014

Payment shall be made as given below: -

All payments to the lowest bidder should be made by the concerned department / its head of the Department as three payments directly based on the Recommendation by HLL Lifecare Limited.

I. Two running bills on the executed work.
II. One final bill on the submission of final Measurement book (Inspected and Verified by HLL Lifecare Limited) along with completion certificates from concerned authorities and original invoices.
III. All statutory payments should be made by the contractor and the same shall be reimbursed on recipient of valid documents.

Retention money shall be deducted at 5% from each bills. Retention shall bear no interest and this amount will be released after passing the satisfactory completion of **defect liability period of 18 months.**

Tax Deduction: All statutory deductions like GST, Income Tax, Works Contract Tax, E.S.I., P.F. or any other government-imposed liabilities shall be borne by the Contractor (as applicable at the time of execution of job) and shall be deducted from each bill submitted by the Contractor.

6. SECURITY DEPOSIT

6.1 On receipt of notification of award, simultaneously with the execution of the contract, successful bidder shall furnish a Security deposit in the form of Bank Guarantee from a nationalized bank, for an amount equal to **5 %** of the total contract value as Security Deposit for his faithful execution of contract. The Security deposit should be valid until successful completion of the contract and released after passing the final bill and issue of completion certificate as in the case of refund of deposit. In case of a delay in the works the validity of security deposit shall be extended.

6.2 Within 7 days of the receipt of notification of award from the purchaser/owner; the successful Bidder shall furnish Bank Guarantee in the security deposit form to be sent along with the Notification of Award.

6.3 The EMD submitted by the successful bidder shall be converted to Security Deposit and the bidder shall be allowed to remit the balance amount.

6.4 Failure of the successful Bidder to accept the notification of award or submission of security deposit within the timeframe shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD, in which even the purchaser/owner may make the award to the next lowest evaluated bidder or call for new bids.

6.5 Forfeiture of Security Deposit:

If the successful bidder / Contractor fails to supply the ordered material at the rate finalized or execute the work and / or supplies only part quantity / partially execute the work or fails to comply with the terms and conditions of the purchase order / work order the security deposit furnished will be forfeited / Bank Guarantee encased.

7. DEFECT LIABILITY PERIOD:

The defect liability period of the work shall be **18 months** from the date of completion of the work and this date will start from successful completion and handing over. If any damage or defect occurs in the work during this period, then the Contractor shall rectify the damage or defect at his own expense to the satisfaction of the Purchaser/Owner. If the Contractor fails to do so, then the Purchaser/Owner shall have the authority to get the work done by other means and the expenditure incurred shall be recovered from the Contractor.

Even if Inspection and/or tests are fully carried out by Purchaser/Owner or their representatives, the Contractor is not absolved to any degree of his responsibility to ensure that all equipment fabricated comply strictly with the requirements as per specifications given in the order, and the Purchaser/Owner shall be free to point out any defect till the comprehensive warranty period is over.

8. EARNEST MONEY DEPOSIT:

8.1 Each bid must be accompanied by E.M.D.

8.2 The EMD is required to protect the purchaser/owner against risk of Bidder's conduct, which would warrant the security's forfeiture

a) The EMD shall be in the form of Demand Draft from a nationalized bank drawn in favor of HLL Lifecare Limited, Thiruvananthapuram payable at Thiruvananthapuram.

b) E.M.D. of the unsuccessful bidders will be released after tabulating tenders, keeping only the earnest money of the first three lowest bidders. The earnest money deposit of the remaining two unsuccessful bidders will be released after the acceptance of the notification of award by the successful bidder.

c) In the case of successful bidder, the Earnest Money will be returned after accepting the order and submission of Demand Draft towards Security Deposit, which they will have to offer for the faithful execution of the contract.

8.3 The EMD may be forfeited:

(a) If a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Document; or

(b) In case of the successful Bidder, if the Bidder fails:

(i) To furnish the Order acceptance copy

(ii) To furnish security deposit

(iii) Fail to perform as per the tender conditions.

9. INDEMNIFICATION CLAUSE

The Bidder shall indemnify and hold harmless the Owner/Purchaser from and against the below mentioned:

i. All claims, demands, action, proceedings, losses, damages, liabilities, cost, charges, expenses or obligations that are occasioned or may occasion to HLL as a result of our non-payment of any statutory dues levied/leviable on the Contractor or the Contractor committing breach of any the rules, regulations, orders, directives, instructions that may be issued by any authority under various Labor Laws, PF, ESI Acts and all other applicable Laws/Acts/Rules or any other Statue or Laws for the time being in force

ii. Any damages, loss or expenses due to or resulting from any negligence or breach of duty on our part or on the part of Sub-Contractor/s, if any, servants or agents of the Bidder.

iii. Claims, if any, of the employee or the Contractor and its Sub Contractor/s, under the Workmen's Compensation Act, 1923 and Employer's Liability Act 1938 or Various Labor Laws or any other Laws rules and regulations in force for the time being in India and any acts replacing and/or amending the same or any of the same as may be in force at the time and under any law in respect of injuries to persons or property arising out of and in the course of the execution of the contract work and / or arising out of and in the course of employment of any workmen / employee.

iv. Any non - compliance or improper compliance of statues, rules and regulations which are applicable to HLL and also to the Contractor and to the employees , in respect of

(a) Employees' Provident Fund and Miscellaneous Provision Act, 1952, (b) Employees State Insurance Act, 1948, © Contract Labor (R&A) Act, 1970 (d) Minimum Wages Act, 1948 (e) Payment of Wages Act,1936 (f) Bonus Act, 1965 (g) Workmen's Compensation Act, 1923 and / or any other laws which may become applicable in respect of the Contract/ Agreement between HLL and the Bidder.

v. Any Act or omission by us or our Sub-contractor/s, if any, our /their servants or agents which may involve any loss, damages, liability, civil or criminal action.

vi. To protect against all claims for damage caused due to non-obtaining of insurance policy during the project period.

11. FORCE MAJEURE

a. Neither the Contractor nor the Purchaser/Owner shall be considered in default in the performance of their obligations as per the Contract so long as such performance is prevented or delayed because of strikes, war, hostilities, revolution, civil commotion, epidemics, accidents, fire, cyclone, flood or because of any law and order proclamation, regulation or ordinance of Government or subdivision thereof or because of any act of God. The proof of existence of force majeure shall be provided by the party claiming it to the satisfaction of the other.

b. The Contractor shall advise Purchaser/Owner initially by a Fax, followed by post, the beginning and end of any of the above causes of delay, failing which Purchaser/Owner shall not be liable to consider delays due to the above reasons. Notice as stated above should be given even in case where only the Contractor's bids are under the consideration of the Purchaser/Owner and no acceptance of the same has been given and detailed order issued.

c. In the event of definite delay even if arising out of reasons due to force majeure, Purchaser/Owner shall have the right at their discretion to cancel the Order or part of the Order without any liability on their part to make any payment to the Contractor while reserving the right to claim refund of and any payment if advanced or paid to Contractor.

12. DELAY IN WORK EXECUTION DUE TO REASONS BEYOND CONTRACTOR'S CONTROL

a. Force majeure: If the execution of work is delayed due to force majeure, then Purchaser/Owner as per the affected period may extend the time period.

b. In case work is delayed due to non-availability of stores supplied by Owner or any decision by Owner holding the progress of work, the contractor then upon any such

happening causing delay shall immediately but not later than 10 days, give notice thereof in writing to the Owner, but nevertheless use constantly his best effort to prevent or make good delay. The Owner may in his discretion grant such extension of time as may appear reasonable to him and the same shall be communicated to the contractor in writing and shall be final and binding on him and the contractor shall be bound to complete the work within such extended time.

13. LIQUIDATED DAMAGES FOR DELAYS

If the work is not completed and handed over to the Purchaser/Owner within the time stipulated in the Order, Purchaser/Owner may at their option, either:

(1) Recover from the Contractor liquidated damages at the rate of 0.5 % of the total contract value for every week of delay, subject to a maximum of 7.5 % of the total contract value, or

(2) At the risk and cost of the Contractor and without prejudice to the other remedies/rights as per the Contract, terminate the order wholly or partially and complete it themselves or reassign it to other contractors.

14. INSPECTION AND TESTING

Purchaser shall have the right of access to the Supplier's works at all reasonable time to inspect and measure the progress of execution of the Order. The Supplier should make available all tools, instruments, apparatus, equipment, facilities, services and materials to enable the Purchaser's nominee to carry out such inspection / tests without obligations. Notwithstanding such tests / inspection conducted at the Supplier's works from time to time, goods under the Order shall not be dispatched unless they have been finally inspected by the purchaser or inspection waived and dispatch specifically authorized in writing, wherever inspection during various stages of execution of the order and prior to dispatch are specifically provided for in the order, sufficient advance notice shall be given to the purchaser for the purpose, and as a consequence of such inspection, if necessary, the Supplier shall arrange re-work at his own cost. Notwithstanding any such inspection/tests carried out at Supplier's works, the equipment shall be accepted only after receipt and successful commissioning at the site and the inspection/tests carried out at Supplier's works will not relieve his contractual obligations for conforming to the specifications under the Order.

15. SCOPE OF SERVICES, SUPPLIES AND MATERIALS

The scope will include all services, supplies etc. for the satisfactory execution of the Contract except in so far as any of those are expressly excluded.

16. CONTRACTORS SUPERINTENDENCE, SUPERVISION, TECHNICAL STAFF & EMPLOYEES

16.1 The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract. As per tendered amount (worked out on the basis of quoted rate of individual items) and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work. Minimum requirement of such technical representative(s) and their qualifications and experience shall not be lower than specified in Forms and Declaration in Part III. Even of the contractor (or partner(s) in case of firm/ company) is himself / herself an Engineers, it is necessary on the part of the contractor to Employ principal technical representative / technical representative (s).

The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative(s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative(s) according to the provisions of this clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative(s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in charge and shall be available at site before start of work.

All the provisions applicable to the principal technical representative under the Clause will also be applicable to other technical representative(s) The principal technical representative and other technical representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required, to the Engineer-in-Charge and/or his designated representative to take instructions. Instructions given to the principal technical representative or other technical representative(s) shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and other technical representative(s) shall be actually available at site fully during all stages of execution of work, during recording/checking/test checking of measurements of works and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements/checked measurements/ test checked measurements. The representative(s) shall not look after any other work. Substitutes, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid shall be provided in

event of absence of any of the representative(s) by more than two days.

If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative(s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (non-refundable) shall be effected from the contractor as specified in Item no.8 Part III and the decision of the Engineer-In-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint suitable technical Principal technical representative and/or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative(s) is/are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative(s) (in the form of copy of Form-16 or CPF deduction issued to the Engineers employed by him) along with every on account bill/ final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.

16.2 The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The contractor shall provide and employ skilled, semiskilled and unskilled labors as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in Charge and the persons so removed shall be replaced within 2 days by competent substitutes.

16.3 In the eventuality of failure of the required manpower on the sites as per the tender document, Bidder shall be debarred in future from participating in Bids for three years and will be recommended for blacklisting by the competent authority. In such cases, it will be considered as violation of the contract. HLL is having the right to cancel the order and the work shall be re-tendered.

17. MATERIALS TO BE PROVIDED BY CONTRACTOR

The contractor shall, at his own expense, provide all materials, required for the works

other than those which are stipulated to be supplied by the HLL

The contractor shall, at his own expense and without delay, supply to the Engineer-in-Charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received / Batch report received.

The Contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in- Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such

removal and substitution shall be borne by the Contractor.

18. FORECLOSURE OF CONTRACT DUE TO ABANDONMENT OR REDUCTION IN SCOPE OF WORK

If at any time after acceptance of the tender, Engineer-in-charge shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

19. ACTION IN CASE WORK NOT DONE AS PER SPECIFICATIONS

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-ln-charge, his authorized subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the HLL or any organization engaged by the HLL for Quality Assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in-charge or his authorized subordinates in charge of the work or to the Chief Engineer in charge of Quality Assurance or his subordinate officers or the officers of the organization engaged by the HLL for Quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs. 10 Lac and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in- Charge in his demand aforesaid, then the

contractor shall be liable to pay compensation at the same rate as per **GCC 12** of the contract (for non-completion of the work in time) for this default.

In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified in Special Conditions of Contract may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

20. SPECIAL INSTRUCTIONS

a. The bidder shall visit the site before quoting for the work and also take their own assessments before quoting of bids.

b. The work should be carried out without causing any inconvenience to the public and shall ensure that no damages are caused to the existing site premises.

c. During the execution of work, the contractor or authorized representative should be present at site.

d. All Materials, Equipment's/ Tools required for the work should be arranged by the contractor and brought to site for the timely completion of the work.

e. The materials used shall be as per specification and of good quality.

f. The Contractor has to arrange necessary insurance coverage for the machine, workmen etc. deployed by him. He shall arrange all safety measures to protect his workmen and also the properties of HLL/Hospital. The work site safety of all employees, their ESI, PF etc. will have to be borne by the contractor.

g. The Purchaser/Owner should be immediately informed for any discrepancy in specifications and instructions in the execution of job before actual execution of particular item having discrepancy.

h. Any item found to be having been executed with poor workmanship then the Contractor shall have to rectify the work as specified by Purchaser/Owner. No extra charge will be admissible in such case. If CONTRACTORS fail to do so, the Purchaser/Owner reserved the right to rectify the work through some other agency at the expenses of Contractor.

i. The schedule of activities as submitted by the Contractor shall have to be strictly adhered to. Regular progress reports shall have to be submitted by the Contractor giving all details for monitoring of the schedule.

j. The Contractor shall have to co-operate with the agencies executing other works in the same area.

k. While executing the work, the Contractor shall ensure safety and security of the property of the Purchaser/Owner so as to avoid theft etc.

l. The Quantity shown in the schedule is an approximate estimated quantity and subject to vary as per each site conditions. No rate revision will be entertained if the quantity increases/decreases due to the site condition while executing the work.

m. During the execution of work, the contractor or authorized representative/s at least one person having technical qualification should be present at site.

n. Final payment shall be paid only after clearing the site as per direction of Engineer-in-charge/ Officer in charge.

o. Rates and amount Quoted by contractor shall be firm and fixed for entire contract period as well as extended period for completion of the works. No escalation shall be applicable on this contract.

p. The contractor should post a senior experienced person for the execution of the work and also provide necessary supervisory staff for smooth execution of work.

q. Temporary fences, shelters, watchman, danger signals and such other precautions, necessary to protect the public and properties of public as included in the rate quoted by the contractor.

r. The contractor should submit all documents such as material test certificates, batch reports, guarantee card, Warranty card of Items/ Components supplied by him.

s. The contractor should prepare all the completion drawings required for getting approval and sanction, and will be responsible for obtaining statutory clearance from the Government/ Electrical inspectorate/ appropriate bodies for commissioning the system as per prevailing rules.

t. All the necessary field tests like cube test, workability test, etc. shall be carried out by the contractor on his expense from time to time and all the records should be maintained at site.

u. Shop drawings, detailed working drawings should be prepared by the contractor and should obtain approval from the site in-charge before the commencement of work.

v. The contractor shall responsible for vetting of structural drawings with competent authority before the commencement of work (if required).

w. The quantity shown in this work order is only tentative and may increase or decrease to any extend as per the drawing and site condition.

x. Handing Over of the Project: Contractor will hand over the project to Owner /Client after successful completion of each component of the project in all respect and complete satisfaction of Engineer-In-charge. The partial handing over of building components shall not be considered. Contractor shall also provide necessary Completion Certificate/NOC from all local Government/ Statuary Authorities including Fire, Forest, Electrical, Environment, Lift, DG Set, required before handing over the project to the client.

y. The work will be commenced by the Contractor only after the approval of drawings from the concerned local authorities including fire fighting's department or another department as per statuary requirement.

z. No payment shall be provided /recommended against the supply of materials, if the supply & fixing is included in a single specification.

aa. The Contractor shall be solely responsible to follow the general clauses of the contract including labour regulations, registration of contractor, obtaining labour license from labour department, safety precautions, etc. and all other statutory provisions related to labour/works as per the prevailing General Clauses of Contract amended from time to time. The Contractor shall stick to the schedule of all activities and carry out it with mutually agreed time frame.

bb. The contractor shall make his own arrangements for obtaining electric connection and water Connection/ arrangement (if required) and make necessary payments directly to the department concerned. No dispute in this regard shall be entertained.

cc. The Project work will be carried out in the manner complying in all respects with the requirements of relevant bye laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer Incharge and nothing extra will be paid on this account.

dd. The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and abide by their rule and regulations and pay all fees and charges which he may be liable.

ee. The contractor shall give a performance test of the entire installation (s) as per standing specification before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.

ff. Samples of various materials required for testing shall be provided free of charges by the contractor. Testing charges, if any, unless otherwise provided shall be borne by the Contractor. All other expenditure required to be incurred for taking the samples, conveyance, packing etc. shall be borne by the contractor himself.

gg. The work shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time, by the Engineer-in-Charge.

hh. Before commencement of any item of work the contractor shall correlate all the relevant architectural and structural drawings, nomenclature of items and specifications etc. issued for the work and satisfy himself that the information available there from is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-charge before execution of the work.

ii. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and/ or incomplete information and no claim whatsoever shall be entertained on this account.

jj. The Contractor shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, audio-video recording etc. nothing extra shall be payable to the agency on this account.

kk. No payment will be made to the contractor for damage caused by rains, or other natural calamities during the execution of the works and no such claim on this account will be entertained.

ll. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by HLL

mm. Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.

nn. Contractor should ensure the cash flow before quoting the tender. It is not possible to stop the works due to delay in part payment/ payment of any other project from the Client / HLL.

oo. Special conditions for Cement: The contractor shall procure 53 grade Ordinary Portland Cement (conforming to IS:8112), Portland Pozzolona cement (confirming to IS:1489: Part –I) as required in the work, from reputed manufacturers as mentioned in the list of approved make in tender. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacture(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufactures, given by the tenderer, fully or partially. The cement brought to the site for execution of work shall be in bags bearing manufacturer's name & ISI marking. Weight of cementing each bag shall be 50 kg. Samples of cement arranged by the

contactor shall be taken by the Engineer- in-Charge and got tested in accordance with provisions of relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and it shall be removed from the site by the contractor at his own cost within 7 days of written order from the Engineer-in-Charge to do so.

SAFETY CODES

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than ¼ to 1(¼ horizontal and 1 vertical).

2. Scaffolding of staging more than 3.6 m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.

4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3ft.).

5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11½") for ladder up to and including 3 m. (10 ft.) in length. For longer ladders, this width should be increased at least ¼" for each additional 30 cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may

be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person

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

(b) Safety Measures for digging bore holes: -

i. If the bore well is successful, it should be safely capped to avoid caving and collapse of the bore well. The failed and the abandoned ones should be completely refilled to avoid caving and collapse;
ii. During drilling, sign boards should be erected near the site with the address of the drilling contractor and the Engineer in-charge of the work;
iii. Suitable fencing should be erected around the well during the drilling and after the installation of the rig on the point of drilling, flags shall be put 50m all-round the point of drilling to avoid entry of people;
iv. After drilling the bore well, a cement platform (0.50m x 0.50m x 1.20m) 0.60m above ground level and 0.60m below ground level should be constructed around the well casing;
v. After the completion of the bore well, the contractor should cap the bore well properly by welding steel plate, cover the bore well with the drilled wet soil and fix thorny shrubs over the soil. This should be done even while repairing the pump;
vi. After the bore well is drilled the entire site should be brought to the ground level.

7. Demolition - Before any demolition work is commenced and also during the progress of the work,

i. All roads and open areas adjacent to the work site shall either be closed or suitably protected.
ii. No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
iii. All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

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

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

(a) Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher officer.
(b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
(c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
(d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.
(e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
(f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
(g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
(h) The debris obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the debris.
(i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in- Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.
(j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
(k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 meters away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.

(l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.

(m) The workers shall be provided with Gumboots or non-sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.

(n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.

(o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.

(p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.

(q) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:

(r) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.

(s) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.

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

9. The Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18are employed on the work of lead painting, the following principles must be observed for such use:

i. White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.

ii. Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.

iii. Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.

iv. Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.

v. Overall shall be worn by working painters during the whole of working period.

vi. Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.

vii. Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man.

viii. HLL may require, when necessary medical examination of workers.

ix. Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

10. When the work is done near any place where there is risk of drowning, all necessary equipment's should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions: -

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

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

13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or

removed while it is in use. Adequate washing facilities should be provided at or near places of work.

14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.
16. Notwithstanding the above clauses from (1) to (15), there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

21. ENTIRETY OF THE AGREEMENT

All of the terms agreed to between the Supplier and Purchaser will be included in the Purchase/work Order/Contract and no their communication, proposal or understanding, written, oral or implied, will be considered to be included in the Purchase/work Order/Contract or form part of the Contract between the Supplier and Purchaser unless specifically agreed to in that behalf in writing between Purchaser and Supplier.

22. CORRESPONDENCE

All correspondence relating to this Order including Invoice shall be in English, to:

ASSOCIATE VICE PRESIDENT (MD&PRJ.)
HI-CARE DIVISION,
HLL LIFECARE LIMITED (A Government of India Enterprise)
Corporate Head Office, Poojappura.P. O,
Thiruvananthapuram – 695012,
Kerala, India
Phn: 0471- 2354949, 2775651
E-mail: pskerala@lifecarehll.com

23. SETTLEMENT OF DISPUTES

Arbitration shall be the means of settlement of any dispute or claim arising out of the contract relating to the work. Any disputes or difference arising between the parties with respect to the performance of any part of this agreement or anything connected therewith, etc. shall as far as possible be mutually settled by the process of dialog and negotiation.

The Courts at Thiruvananthapuram alone shall have jurisdiction in respect of settlement of any matter arising out or in connection with the contract.

Part III

FORMS AND DECLARATIONS

1. SELF-DECLARATION NON-BLACK LISTED

(In company letterhead with sign & seal)

To,

Associate Vice President (MD&PRJ.)
Hi-Care Division,
HLL Lifecare Limited (A Government of India Enterprise)
Corporate Head Office, Poojappura.P.O,
Thiruvananthapuram – 695012,
Kerala, India
Ph: 0471- 2354949, 2775651
Email : pskerala@lifecarehll.com

Dear Sir, this is to certify that our company_____ has not been Black Listed /debarred or found guilty of malpractice /misconduct either by State Government or Government of India in connection with manufacture and supply of any of the product(s) quoted during the last 5 years' period.

SIGNATURE OF THE BIDDER WITH SEAL

2. ACCEPTANCE FORM

(To be submitted in the letter pad of the firm indicating full name and address, telephone & E-mail etc.)

From

To

Associate Vice President (MD&PRJ.)
Hi-care Division,
HLL Lifecare Limited (A Government of India Enterprise)
Corporate Head Office, Poojappura. P.O,
Thiruvananthapuram – 695012,
Kerala, India
Ph: 0471- 2354949, 2775651
E-mail: pskerala@lifecarehll.com

Name of Work: Upgradation of Primary Health Centre into Family Health Centre at PHC Nagaroor, Thiruvananthapuram district, kerala.

Dear Sir,

I / We, hereby offer to design / fabricate / supply / install / testing / validate / commission as detailed in schedule hereto or such portion thereof as you may specify in the acceptance of Bid at the price given in the price bid and agree to hold this offer open for **120 days** from the date of bid opening prescribed by the Purchaser. I / We have understood the terms and conditions mentioned in the invitation for bid and Conditions of Contract furnished by you and have thoroughly examined the specifications quoted in the bid document hereto and are fully aware of the nature of the scope of work required and my/our offer is to comply strictly in accordance with the requirement and the terms and conditions mentioned above.

We are hereby attesting all the pages of the tender document & submitting the same in proof of our acceptance of the terms of the tender.

Yours faithfully,

SIGNATURE OF THE BIDDER WITH SEAL

AA

3. COMPLETION PERIOD

(To be submitted in the letter pad of the firm indicating full name and address, telephone no. & E-mail etc.)

Civil and Electrical work for Upgradation of Primary Health Centre into Family Health Centre at PHC Nagaroor, Thiruvananthapuram district, kerala as per the Schedule shall be completed within a period of **15 days** from the date of PO/Site clearance irrespective of the no of sites awarded.

SIGNATURE OF THE BIDDER WITH SEAL

AA

4. REQUISITION FORM FOR E-PAYMENT

Certified that I am having a Savings / Current Account in <Name of Bank> ----------
---------- at <Name of Branch>---------- with <IFSC Code>
_____

The Account Number is: _____

I wish to receive all payments in this account through NEFT and RTGS systems, as the case may be, for all payments relating to this work.

Name of Bidder

Place: _____

Date: _____

(Attach Scanned copy of Cancelled cheque of above bank)

AA

5. NO DEVIATION CERTIFCATE

To

Associate Vice President (MD&PRJ.)
Hi-care Division,
HLL Lifecare Limited (A Government of India Enterprise)
Corporate Head Office, Poojappura. P.O,
Thiruvananthapuram – 695012,
Kerala, India
Ph: 0471- 2354949, 2775651
E-mail: pskerala@lifecarehll.com

Subject: No Deviation Certificate for Civil and Electrical work for Upgradation of Primary Health Centre into Family Health Centre at PHC Nagaroor, Thiruvananthapuram district, kerala

Tender Ref No. HLL/CHO-PROJ/HCD/NHM-SO/TVM/2024-25, DT. 26.09.2024

Dear Sir,
With reference to above this is to confirm that as per Tender conditions we have visited site before submission of our Offer and noted the job content and site condition etc. We also confirm that we have not changed/modified the above tender document and in case of observance of the same at any stage it shall be treated as null and void.

We hereby also confirm that we have not taken any deviation from Tender Clause together with other reference as enumerated in the above referred Notice Inviting Tender and we hereby convey our unconditional acceptance to all terms & conditions as stipulated in the Tender Document.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null and void.

Yours faithfully,

Date:

(Signature, name and designation
of the Authorized signatory)

Name and seal of Bidder

Note:

In case of Association, the Associate Bidder shall also submit the Form

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PART IV

LIST OF APPROVED MAKES
(In company letter head)

LIST OF APPROVED MAKES FOR CIVIL AND ELECTRICAL WORK

To be submitted in the letter pad of the firm indicating full name and address, telephone & fax numbers etc.)

TECHNICAL SPECIFICATIONS

1. All the measurements shall be as per the latest edition of B.I.S.

2. The Technical specifications, code of practice etc. shall be referred in accordance with CPWD Specifications and work shall be executed accordingly for all works.

3. Items which are not covered under CPWD Specification shall be carried out as per relevant Indian Standard Specifications of BIS/ NBC/ IRC/ BS/ ASTM/ DIN as directed by the Engineer-in-charge.

4. The detailed specifications for electrical works shall be in accordance with CPWD – General Specifications for Electrical Works Part I (Internal) 2013.

TECHNICAL SPECIFICATION & CONDITIONS – CIVIL WORKS

1. **EARTH WORK**: As per relevant CPWD specifications.

A. Irrespective of the stipulations in the relevant CPWD Specifications or elsewhere in the Contract, the excavated earth shall be disposed of by the contractor at his own cost to the place as directed by Engineer – in-charge and/or permitted by the local authority after obtaining written permission of the Engineer – in-charge and no payment will be made by the HLL for disposal of this excavated earth.

B. The Contractor shall, at his own expense and without extra charges, make provision for all shoring, pumping, dredging or bailing out water, encountered from any sources such as rain, floods, springs, subsoil water table being high or due to any other cause whatsoever.

C. Filling in plinth shall be consolidated with water and compacted with pneumatic rammers, to achieve 90% relative density on testing. One test is to be carried out for 1000 sq.ms. of compacted area.

2. PLAIN CEMENT CONCRETE AND REINFORCED CEMENT CONCRETE WORK:

A. STONE AGGREGATE:

i. Stone aggregate used in the work shall be of hard broken stone to be obtained from approved source and shall conform to relevant provision in the Latest CPWD Specifications for works.

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B. SAND

i. Sand to be used for the work shall be of as specified in CPWD Specifications 2019. Sand shall be obtained from the source to be got approved by the Engineer in charge and washed if required, with appropriate equipment to bring down the chemical, inorganic and organic impurities within the permissible limits as per the direction of the Engineer in charge. The same shall consist of hard siliceous materials. Note: Where only one variety of sand is available the sand will be sieved for use in finishing work as directed by the Engineer – in – charge in order to obtain smooth surface and nothing extra will be paid on this account.

ii. Nothing extra shall be paid for screening or washing the sand as prescribed above.

C. CEMENT

i. The contractor shall procure 43/ 53 grade ordinary Portland cement [grade as per design/ decision of Engineer-in-charge] conforming to IS 8112/Portland Pozzolana Cement conforming to IS:1489 (Part-I) as required in the work, from approved manufacturers of cement having a production capacity not less than one million tonnes per annum as approved by the Engineer –in -charge. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacturer(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturers, given by the tenderer, fully or partially. The supply of cement shall be taken in 50 kg bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-charge and got tested in accordance with provisions of relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not conform to the BIS codes, the same shall stand rejected, and it shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer in-charge to do so. The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer-in-charge. The cement go down of the capacity to store a minimum of 2000 bags of cement shall be constructed by the contractor at site of work for which no extra payment shall be made.

D. CENTERING SHUTTERING AND SCAFFOLDING:

i. All Scaffolding centering for RCC shall be with properly designed system and brought to site well in advance so that the progress of the work is not hampered for non-availability of the same.

ii. All shuttering for RCC work except soffits of slab shall be in water proof shuttering Ply. Shuttering for slab and soffits shall be in water proof shuttering ply or in good quality mild steel plates free of dents, bends or warping and rusting as approved by the Engineer in charge.

iii. Contractor should deploy complete one set of shuttering materials for minimum one complete floor and the shuttering material for beam bottom shall be minimum for two complete floors.

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E. REINFORCEMENT:

i. TMT reinforcement steel shall be used shall be as per design and conforming to IS: 1786 pertaining to Fe 500D OR Fe 550D grade of steel.

ii. TMT steel bars manufactured by main producers, as per list of makes, shall be allowed in the work. Contractor shall produce manufacturer Test Report for each dia and each lot Tests. Nothing extra will be paid for "straightening of bars" received from market in coils or with bends. All incidental charges of any kind whatsoever including cartage, storage, safe custody of materials, cutting and wastage etc. shall be borne by the contractor.

iii. The actual average sectional weight for dia up to 10 mm shall be arrived at from one meter long samples (minimum 3 from each dia) taken from each lot of steel. The discretion of the Engineer – in – charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute the single lot for this purpose.

iv. The weight of each lot of a particular diameter of 10mm and below shall be reckoned as the weight as per actual issue multiplied by a factor equal to the standard sectional weight of the particular diameter divided by the average sectional weight of the particular dia in a particular lot worked out as per above para. Adjustment for the steel shall be effected on the basis of the weight as modified above for quantity payable.

v. Measurement of all diameters of steel be on linear basis and will be converted into weight on the basis of standard sectional weight coefficients given in relevant CPWD specifications mentioned in schedule 'F' of General Conditions of Contract.

vi. Measurement of reinforcement shall be as per procedure described in the relevant CPWD specifications mentioned in schedule 'F' of General Conditions of Contract

F. CONCRETE MIX DESIGN

The mix design shall be for MODERATE exposure and GOOD degree of quality control, unless otherwise specified.

3. BRICK WORK

A. BRICK WORK

a. Bricks used in the work shall be obtained from kilns to be got approved from the Engineer in charge and shall be best quality well burnt ground moulded bricks as available in the vicinity. They shall have a compressive strength of not less than 75 Kgs/sq.cm and an absorption percentage of not more than 15 (Fifteen) % of its dry weight when immersed in water for 24 hours. In all other respects they shall conform to the provision in Latest CPWD Specifications for works.

b. Both the face of wall of thickness more than 23cm shall be kept in the proper plane. Walls of half brick thickness or less shall be measured separately and paid in sqm.

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c. Bricks wall beyond half brick thickness shall be measured in multiple of half brick (i.e. more than 115mm or equivalent) which shall be deemed to be inclusive of mortar joints. In all other respects they shall conform to the provision in relevant specifications of the work.

d. For mortar, use of PP Cement shall be preferred.

B. Solid/Hollow Block Work

a. Precast CC blocks shall be procured from approved manufactures or manufactured at site. Nothing extra shall be payable on account of adding any admixture for making pre- cast blocks or for steam curing.

b. The Solid CC blocks shall have nominal size of 400mm x 200mm x 200mm for 200mm thick masonry wall& Hollow blocks of nominal size 400mm x 200mm x 100mm for 100mm thick masonry wall and shall confirm to IS 2185.

e. The samples of CC blocks (each sample consisting of 6 specimens) shall be chosen randomly from the lot and tested for various parameters specified below. One samples shall be tested for every 100 cum or part thereof.

f. Following parameters shall be tested.

Compressive strength.

Water absorption

Density

Dimensional Tolerances

The material shall meet following parameters :

Compressive strength shall be no less than 5.0 N/sq. mm.

Water absorption shall not be more than 5%.

Density shall be not less than 1500 kg/cum.

Dimensional tolerance in the size shall be not more than + 5mm for length and + 3mm for height and width.

g. Top course of all plinth, parapets, steps and top of walls below floor and roofs shall be laid with solid blocks, properly radiated and keyed into position to form cut (meru) corner. Where blocks cannot be cut to meru corners, cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) equal to thickness of the coarse shall be provided in lieu of cut blocks. No additional payment shall be made on this account.

h. Nothing extra shall be payable on account of chasing the CC block masonry work for embedding pipes, electrical boards/ boxes etc. and also filling the chases with cement mortar 1:4 (1 Cement : 4 Coarse sand). The chasing shall however be carried out using machine cutters so as not to disturb the joints in the masonry and without any cracks being developed in the masonry.

i. All other specifications for 100 mm thick and 200mm thick hollow/solid block work shall be as described for full brick and half brick masonry work respectively.

j. For unsupported lengths of 100 mm thick walls exceeding 3.5 m, 100 x 200 mm wide R.C. mullions shall be provided at 3.5 m centre, tied to the lintels at door height. Similarly, continuous R.C. beam of size 100 x 150 mm shall be provided at door height for 100 mm thick wall. Such RC mullion/ bands shall be measured and paid separately.

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4. **CEMENT PLASTER: -** The use of PP Cement shall be preferred.

The joints in the brick work, concrete blocks, shall be raked to a depth of 15 mm while the masonry is green. Concrete surfaces to receive plaster shall be suitably roughened. All walls shall be washed with water and kept damp for 10 hours before plastering. The plaster unless specified otherwise shall be average of 12 mm thick on walls. The finished texture shall be as approved by the HLL. The mix for plaster unless otherwise specified, shall be one-part cement and four parts sand, to walls. All plaster work shall be kept continuously wet for seven days.

5. STEEL GRILL WORK:

a. All steel grills shall be according to the detailed drawings and obtained from approved suppliers. These shall conform to Latest CPWD Specifications for works.

b. In case of grills an approved quality priming coat of zinc chromate shall be applied over and above a shop coat of primer. Nothing extra shall be payable for providing shop coat primer, but the zinc chromate primer, if additionally required, will be paid for separately.

6 .PAINTING

a. MATERIAL

This paint shall be brought to the site of work by the contractor in its original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a fortnight's work. The materials shall be kept in the joint custody of the contractor and the Engineer-in-Charge. The empty containers shall not be removed from the site of work till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge

b. SCAFFOLDING

Scaffolding as required for the proper execution of the work shall be erected. If work can be done safely with the ladder or jhoola these will be permitted in place of scaffolding.

c. PREPARATION OF SURFACE

The surface shall be thoroughly cleaned off all mortar dropping, dirt dust, algae, fungus or moth, grease and other foreign matter of brushing and washing, pitting in plaster shall make good, surface imperfections such as cracks, holes etc. should be repaired using white cement. The prepared surface shall have received the approval of the Engineer in charge after inspection before painting is commenced.

d. APPLICATION

Before pouring into smaller containers for use, the paint shall be stirred thoroughly in its container, when applying also the paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform. The lids of paint drums shall be kept tightly closed when not in use as by exposure to atmosphere the paint may thicken and also be kept safe from dust. Paint shall be applied with a brush on the cleaned and smooth surface. Horizontal strokes shall be given, First and vertical strokes shall be applied immediately afterwards. This entire operation will constitute one coat. The surface shall be finished as uniformly as possible leaving no brush marks.

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e. BRUSHES & CONTAINERS

After work, the brushes shall be completely cleaned of Paint and linseed oil by rinsing with turpentine. A brush in which Paint has dried up is ruined and shall on no account be used for painting work. The containers when not in use, shall be kept closed and free from air so that Paint does not thicken and also shall be kept safe from dust. When the Paint has been used, the containers shall be washed with turpentine and wiped dry with soft clean cloth, so that they are clean, and can be used again.

7 ALUMINIUM WORK \UPVC

a. The scope of the work is the fabrication, supply and erection at site of all types of Aluminium/ UPVC glazed doors, windows and ventilators in accordance with the drawings and specifications.

b. The supply and erection will include all parts such as but not restricted to frames, tracks, guides, mullions, styles, rails, couplers, transoms, rails, plates glazing bars, glass, hinges, arrangement, spring catches, cord and pulley arrangements, spring catches, cord and pulley arrangements door closers floor springs etc., required for the whole work whether the parts/ items are individually and specifically referred to in the schedules/ specifications/drawings or not provided that the supply and installation of such parts can be inferred there from and are necessary to make the work complete, unless separate provision is made in the bills of quantities for supply to such parts/items.

c.The doors, windows, ventilators, will be fabricated to suit the finished clear openings in the building/structure which the tenderer will himself measure.

d. Materials:-

i. The members will be made out of aluminum alloy corresponding to IS:733 and will consist of extruded sections and of other shapes, and to sized gauges as shown in the drawings/ described in accordance with the relevant IS codes. The members shall be chosen to provide strength/ stability and maximum resistance to wear and tear.

ii. UPVC members shall be made of PVC material conforming to IS: 10151.

iii. The Sections will be as per approved makes, extruded sections. As indicated in the drawings the tenderer should specifically mention which sections he is using.

iv. The weight of sections and the corresponding catalogue numbers are mentioned.

v. The weight of sections and the corresponding catalogue numbers are mentioned. The IS specifications are to be strictly adhered.

v. The extruder using recycled materials may be preferred.

vi. The alloy of extruded aluminum should be BS or IS old HE9, Alcon 50 SWP. to this effect test certificate has to be provided for the extruder.

e.Finishing

i. The extruded aluminum section has to be mechanically finished to remove all scratches; extrusion marks etc and subsequently thoroughly cleared in all alkali baths prior to anodizing.

ii. The polyester powder coating, as required, as per item of work, shall be of desired shade with minimum average thickness to 50 microns or other shades as required and to this effect the tenderer must have to produce test certificate from authorized institutions Bureau of Indian Standard.

iii. The polyester powder coated material should be properly wrapped in gummed tape before fabrication to avoid scratches during fabricated and erection shall be kept protected till handing over.

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f. Fabrication:

i. Before commencing the fabrication the contractor shall submit to the Engineer – in - charge for their approval detailed shop drawings, based on the Architectural drawings and corresponding specification showing junctions, fittings, accessories such as hinges flush bolts, locks, latches, latching arrangements, peg stays, rotor arms, anodize pivots gaskets rubber packing door felts, mastic, sealant etc., including fixing and sealing arrangements . Type and method of scaffolding he intends to use, Fabrication is to be taken up only after approval by the Engineer – in

- charge and in accordance with the approved drawings. Sections for fabrication of door/ window/ventilators etc shall be as per architectural drawings or as approved by the Engineer – in - charge.

ii. A sample of finished door / windows/ ventilator railing etc. shall be fabricated as per the shop drawings approved by the Engineer – in - charge for final approval before under taking mass production/ fabrication,

iii. The doors, window, ventilators and partitions shall be as per thickness given in the approved shop drawings, Polyester Powder coating shall be as specified in the item specifications.

iv. All materials shall conform to relevant IS. Codes and in the absence of IS code, they should correspond to the best engineering practice; decision of the Engineer – in

- Charge shall be final and binding on the contractor.

v. Fabrication shall be done true to the drawing/ sample approved and in correspondence to the finished openings at the site. All joints shall be mitered at the corners, true right angles, and joints to be finished neatly to hairlines, with concealed fasteners, wherever possible joints shall be made in concealed locations.

vii. Site installation shall be with concealed screws, self-tapping or other approved fasteners or may be by welding, due precautions shall be taken to avoid any distortion/ discoloration /damage to the finished items.

viii. Wood work faces /parts coming in contact with masonry shall before shifting to the site be given a heavy coat of alkali resistance bitumen paint. Steel items coming in contact with other incompatible materials shall be given a thick coat of zinc chromate primer.

g. Glazing:

Glazing shall be done with flawless sheet glass of best approved quality without waviness, distortion, coloration / discoloration, of specified thickness in sizes as shown in the drawings, fixed as required with special glazing clips, putty, neoprene/PVC gaskets. All glass shall be cleaned thoroughly before they are fixed in position. Unless otherwise specified the minimum thickness shall be 5 mm thick.

8. FALSE CEILING

a. False ceiling items in general are carried out as per the description of the item in the Bill of quantities and also as per the manufacturer's specifications / as directed by the Engineer – in – Charge. 10

b. Location of particular type of false ceiling shall be as per relevant drawing, in its absence written approval of the Engineer – in - charge shall be obtained.

c. The false ceiling tiles from manufacturers using recycled materials shall be preferred.

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9.FLOORING:

a. The flooring in the building shall be as per the approved floor finish drawings and laid in such a way that limits in floor levels would not exceed the limits provided in the latest CPWD specifications or manufactures specifications.

b. Wherever Vitrified Tile flooring is done, it shall be with multy grade/range 1st Quality tiles.

c. Slope in floors shall be provided as per architectural drawings, else the levels at any place when checked over a distance of one meters in any direction should not show variation in floor level more than 3 mm.

d. Rate for the items of flooring is inclusive of provision of sunken flooring and finishing edges of the same in bath kitchen, toilets, cutting holes for traps/ pipes etc., and nothing extra shall be paid on this account unless otherwise specified.

e. Protective layer to be provided of any type of flooring and nothing extra shall be paid on this account.10.

10. STAINLESS STEEL RAILINGS

a. The scope of the work includes preparation of the shop drawings (based on the architectural drawings), fabrication, supply, installation and protection of the stainless steel railing till completion and handing over of the work.

b. The stainless steel work shall be got executed through specialized fabricator having experience of similar works. The Contractor shall submit the credentials of the fabricator for the approval of the Engineer-in-Charge.

c. The Contractor shall submit shop drawings, for approval of the Engineer-in-Charge, for fabricating stainless steel railing with detailing of M.S. stiffener frame work backing along with the fixing details of the M.S. frame work to the R.C.C columns. The details of the joints in the stainless steel railing including location, etc. shall also be shown in the shop drawings.

d. The Contractor shall procure and submit to the Engineer-in-Charge, samples of various materials for the railing work, for approval. After approval of samples, the Contractor shall prepare a mock up for approval of Engineer-in-Charge/ HITES. The material shall be procured and the mass work taken up only after the approval of the mock up by the Engineer-in-Charge/ HITES. The mock-up shall be dismantled and removed by the contractor as per the directions of the Engineer-in-Charge. Nothing extra shall be payable on this account.

e. The stainless steel shall be of grade 316 with brushed steel satin finish and procured from the approved manufacturer. It shall be without any dents, waviness, scratches, stains etc.

f. The required joints in the railing provided as per the architectural drawings, shall be welded in a workmanlike manner including grinding, polishing, buffing etc. all complete and compacted. The temporary clamps provided and fixed to hold the stainless steel railing, in position shall be removed after the concrete has set properly. The junction of the flooring and the cladding shall be neatly filled with weather silicone sealant of approved colour and shade. Nothing extra shall be payable on this account.

g. One test (three specimens) for each lot shall be conducted for the stainless steel pipe in the approved laboratory. Therefore, the material shall preferably be procured in one lot from one manufacturer.

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h. The finished surface shall be free of any defects like dents, waviness, scratches, stains etc. and shall have uniform brushed st
be rejected and redone by the Contractor at his own cost. The finished surface shall therefore be protected using protective tape which shall be removed at the time of completion of the work. The surface shall then be suitably cleaned using nonabrasive approved cleaner for the material. Nothing extra shall be payable on this account.

i. The item includes the cost of all inputs of labour, materials (including stainless steel pipes, welding, brazing, concrete, protective film, weather silicone sealant etc including cost of providing and fixing M.S. frames), T & P other incidental charges, wastages etc. The items also included providing and fixing stainless steel anchor fasteners for fixing railing.

j. The railing shall be fixed in position using stainless steel pipes, stainless steel posts of required diameters and thickness as shown on drawing and polished to satin finish including cutting, welding, grinding, bending to required profile and shape, hoisting, butting, polishing etc.

k. The item includes the cost of all inputs of labour, materials, T&P, other incidental charges, wastage etc. The entire work shall be carried out to the satisfaction of Engineer-In-Charge.

11. GLASS:

a. All glass and glazing material shall be verified and coordinate with the applicable Performance requirement.

b. All glass shall be cut to require size and ready for glazing. All glass shall be accurate sizes with clear undamaged edges and surfaces which are not disfigured. Any panel which does not fit any section of the curtain wall and shop front will be rejected and a replacement made at the Contractor's expense.

c. Glass shall conform to the quality, thickness and dimensional requirement specified in Bill of Quantities/ CPWD Specification.

d. Heat strengthened glass shall not deviate in surface flatness by more than 0.23 mm with in 260mm of leading or trailing edge, or 0.076 mm in centre. Direction of ripple shall be consistent and is acceptable to Engineer-in-charge. Distortion of glass shall be controlled as much as possible during heat strengthening. Sag distortion shall be unidirectional and surface compression shall be in the range of 320-450 Kg/cm². All glass shall be delivered to site with the manufacturer's label of identification attached.

e. The glass glazed panel/ structural glazing frames for the structural glazing system shall be designed to withstand lateral imposed loads and comply with requirement of local building codes.

f. Glass shall be free from defect or impurities detrimental to its performance. Defects such as bubbles, waves, spots scratches, spalls, discoloration, visibly imperfect coating, chipping, and bubbles delaminating of opacifier film shall be limited in accordance with the Manufacturer's / trade guidelines. The glass is to be produced in such a way that the rollers will be parallel to what will be the horizontal position of the glass. Glass should be consistent in colour.

g. Double glazed units shall be procured only from approved manufacturer. Quality control tests shall be performed for mixing, curing, adhesion and dew point. The unit shall be guaranteed against condensation and dirt between the panes, failure of seal and damage to internal coating.

h. All glass breakage caused by the Contractor or his sub-contractor because of negligence or caused

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by the installation of faulty work by him shall be replaced by the Contractor at his own expense without delay to the project completion.

12. WATER PROOFING TREATMENT:

All the items for water proofing treatment with cement based water proofing treatment for roof slab and sunken portion in schedule of quantities shall be guaranteed for TEN YEARS the case of cement based treatment by the contractor as per Performa prescribed. The water proofing treatment work should be got done through specialized agency approved by EIC.

13. WATER PROOFING TREATMENT FOR ROOF /SUNKEN FLOORS OF W.C`S ETC.

a. Water proofing treatment for roof/ sunken floor has to carried out as per the respective Bill of Quantities/ CPWD Specification.

b. The finished surface after water proofing treatment shall have required slope.

c. While treatment of sunken floors is done it shall be ensured that the 'S' or 'P' traps as the case may be have been fixed/ eased and rounded off properly the work shall be carried out as per relevant CPWD specifications.

d. GURANTEE: The above water proofing, treatment shall be guaranteed for TEN YEARS against any leakage etc. the contractor shall have to execute a bond, 10 % of cost of items executed for water proofing shall be retained for 10 years as security (Refer GCC provisions).

14. ANTIBACTERIAL PAINT

a. The Antibacterial Paint shall be able to provide anti-Microbial Protection:

b. The scope of work includes providing & applying approved makes anti-Microbial Paint on wall surfaces as per manufacturer's specifications complete in all respect & as directed by Engineer-in-charge. Following are the desired characteristic of the paint:

i. Protection: The product hygiene coatings to start the biocidal action as soon as the microorganism land on the surface, and prevents the growth of mould, bacteria and yeasts for at least 5 years.

ii. Lily Cycle Savings: The unparalleled durability of hygiene coatings should help to extend the maintenance cycle and to minimize all related material, labour and shut down costs.

iii. Chemical Persistence: The hygiene coatings should be highly resistant to abrasives, detergents and weak acids and alkalis used in cleaning

15. CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPES

CPVC pipes & fittings used in hot & cold potable water distribution system shall conform to requirement of IS 15778. The material from which the pipe is produced shall consist of chlorinated polyvinyl chlorides. The polymer from which the pipe compounds are to be manufactured shall have chlorine content not less than 66.5%. The internal and external surfaces of the pipe shall be smooth, clean and free from grooving and other defects. The pipes shall not have any detrimental effect on the composition of the water flowing through it.

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LIST OF APPROVED MAKES (CIVIL WORKS)

SN	Material	Approved Make/Manufacturers
1	Plywood /Block board /Ply board	Duro/ Greenply/ Century/ Kitply/ National/ Archiply/ Merino/equivalent
2	Pre-laminated particle board / Veneered particle board	Novapan /Century /Green Ply /AK Plywood/ Merino/equivalent
3	PVC door/shutter	Rajshri/ Plasopan/ Synkapolywood/ Polyline Sintex/ Polyex/equivalent
4	Clear Glass / Clear Float Glass / Toughened Glass/ Mirror/ Structural Glazing	Modiguard/ Saint Gobian (SG)/ TATA Continental/ Asahi India Safety Glass Ltd/equivalent
5	Glass Wool / Insulation Boards	Rockwool/ UP Twiga/ Lioyd Insulation/ equivalent
6	Aluminum building hardware	IPSA/ Everite/ EBCO/ ECIE/ Hardwyn Traders/equivalent
7	Aluminium Sections	Jindal/ Hindalco/ Indal/equivalent
8	UPVC Doors & Windows & Partitions	Fenesta/ Lingel/ CASSA/ Evolution/ Kommerling/ NCL Wintec/ Duroplast/AparnaVenster/equivalent
9	UPVC Toilet Doors	AMD Overseas/ Fenesta/ Lingel/ CASSA/ Evolution/ Kommerling/ NCL Wintec/ Duroplast/AparnaVenster/equivalent
10	Locks/Latches	Godrej/ Harrison/ Hettichplaza/ yale/ link/equivalent
11	Door Hardware	Dorma/ Kich/ Classic/ Haffle/ Ozone/ Geze/equivalent
12	Hydraulic Door Closer/Floor Spring	Godrej/ Hardwyn/ Dorma/ Everite/equivalent
13	Adhesive for tiles	Cico / Pidilite / ArdexEndura / Sikka / Fosroc / BASF/equivalent
14	Adhesive for Wood Work	Fevicol/ Pidilite/ ArelditeCico/ Vamicol/ Dunlop/equivalent
15	Fastener	Fisher/ Hilti/ Canon/ Bosch/equivalent
16	Fire Sealant	Hilti/ Promat/ Birla/ 3M/equivalent
17	Silicon sealants /Weather Sealant / Structural Glazing Sealant/ Additives	Asian paints/ Foscroc/ Pidilite/ GE- Silicon/ Pidilite/ CICO/ Sikka/equivalent
18	Cement	ACC/ Coromandel / Ultra tech/ JK Cement/ Ambuja/ India Cement/ Ramco/ Dalmia/ Malabar Cement/ Birla/ Chettinad/ Cement Corporation of India/ Bharati/equivalent
19	Concrete Additive	Sikka/ CICO/ Pidilite/ Fosroc/ Fairmate/ MC

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SN	Material	Approved Make/Manufacturers
		Bauchemie / BASF/equivalent
20	Concrete Admixture	Fosroc/ Pidilite/equivalent
21	AAC blocks	Xtralite from Ultratech/ Aerocon from HIL/ Siporex India Limited/equivalent
22	Damp proof material	Impermo/ Duraseal/ ACCO-proof/
23	Gypsum Board / Gypsum False Ceiling/ Gypsum Partitions	India Gypsum/ SaintGobain/ Lafarge/ Boral Gypsum/ Armstrong/equivalent
24	Calcium Silicate Boards & Tiles False Ceiling	India Gypsum/ Aerolite/ RAMCO (Hilux)/ Saint Gobain (Gyproc)/equivalent
25	Metal false Ceiling	Armstrong/ Hunter-Douglas/ USG/ Unimet/ equivalent
26	Mineral fibre false Ceiling	Armstrong/ Decosonic/ USG/ AMF/ Saint Gobain (Gyproc)/equivalent
27	Ceramic Tiles	Kajaria/ Somany / H & R Johnson/ Orient - Bell NITCO/ RAK/equivalent
28	Vitrified Tiles (Double/ Fully Charged)/ Gem Free	Kajaria/ Somany / H & R Johnson/ Orient- Bell/ NITCO /RAK/equivalent
29	Epoxy Flooring	CIPY/ FOSROC/ ArdexEndura/ Dr. Beck/ Flamaflor/ BASF/equivalent
30	PVC Flooring	LG Floors / Gerflor / Premier Vinyl flooring / Armstrong/equivalent
31	Cement Concrete Paver Tiles/ Drain cover/ Kerb Stone	K.K/ HPL/ TUFFTECH/ NITCO/ Modern/ Dalal Tiles/ CICO/ Bharat Concrete Products/ Ashokaa/ Uni Stone Products (India) Pvt. Ltd/ Hindustan Tiles/equivalent
32	Antistatic Floor Coating	INARCO/ PVC WONDER FLOOR/ ARMSTRON/equivalent
33	Water proofing compound	Dr.Fix/ FOSROC/ SIKA/ CICO/ Pidilite/ Impermo by Snowcem/equivalent
34	Water proofing Materials (Bitumenistic)	BASF/ Fosroc/ Sikka/ CICO/ Pidilite/ STP/ ArdexEndura/equivalent
35	White Cement	Birla White/ JK White/equivalent
36	Wall putty	JK Wall Putty/ Birla Putty / Nippon/equivalent
37	Synthetic Enamel Paint	Asian (Premium Apcolite Gloss)/ Berger (LuxolHigloss)/ Nerolax/ ICI (Dulux Gloss)/ Nerolac / Jotun/equivalent
38	Oil Bound Distemper	Nerolac/ Berger(BisonAcrylic)/ Asianpaints/
39	Dry Distemper	Berger(Castle)/equivalent
40	Emulsion Paint	Nerolac/ Berger/ Asian paints/ ICI/ Jotun/equivalent

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SN	Material	Approved Make/Manufacturers
41	Steel/ wood primer	Nerolac/ Berger/ Asian paints/ ICI / Jotun/equivalent
42	Texture Paint	Spectrum/ Unilite Heritage/ Asian/ Berger/ Jotun/ equivalent
43	Epoxy Paint	ICI Dulux/ Nerolac/ Cico/ Sikka/ BASF/ Berger/ Pidilite/equivalent
44	OT: Anti -Fungal Paint	ArdexEndura/ Sikka by Liquid Plastic/ Viesmann/ SSK/ TRILUX/equivalent
45	Water proofing cement paint	Snowcem/ Asian/equivalent
46	Pre –coated galvanized steel Profile sheet & accessories	TATA Bluescope/ DynaRoof/ ESSAR Steel/ JINDAL/ Llyod Insulations India Ltd / S.R Metals/equivalent
47	Steel section windows, Pressed Steel door frame	San HarvicSteelman Industries/ AGEW/ BHAWANI-STEEL/equivalent
48	Structural Steel Sections/ Rolled Sections & Tubeless Sections	SAIL, TATA (TISCO), RINL, Jindal/ RANA/ Capital/ Kamdhanu/ Prithivi/ Prakashsurya/ Appolo&Hitech/equivalent
49	Reinforcement Steel	SAIL/ TATA(TISCO)/ RINL/ JSW/ JINDAL/equivalent
50	Pre-coated Galvanized Steel Sheet	Tata BlueScope / Llyod Insulations India Ltd / S.R.Metals/equivalent
51	Polycarbonate Sheets	Galina/ GE Plastic / Skyarch/ Polytechno/ Tuflite/equivalent
52	PUF/ Sandwich Panels	Llyod Insulations India Ltd / Jindal / T K E S P Ltd. Isocab Sandwich Panels/equivalent
53	Vitreous china sanitary ware	Jaquar/ Kohler/ Cera/Hindware/ Parryware / Kerovit/equivalent
54	Plastic WC cover	Hindustan Saitary ware, Commander, DIPLOMAT/equivalent
55	Stainless Steel sink	Hindware/ Neelkanth/ Nirali/ Jayna/ Anupam/equivalent
56	G.I pipes	Jindal Hissar/ TATA/ BST/equivalent
57	G.I fittings	Unik/ ZOLOTOM/ DRP-M/ Kent/ equivalent
58	C.PVC pipe	Astral/ Ashirwad/ SFMC/ Finolex/ Ashirwad/equivalent
59	Rainwater & PVC pipes & fittings	Prince/ Supreme/ Finolex/ SFMC/ Astral/equivalent
60	Gun metal valves	Leader/ Sant/ Zoloto/ Kriloskar/ Cera/ Jaquar/equivalent

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SN	Material	Approved Make/Manufacturers
61	CPVC pipes & fittings	Supreme/ Finolex/ SFMC/ Astral/ Prince/equivalent
62	C.l covers & Manhole covers	RIF/ NICO/ SKF/equivalent
63	SS Gratings/ Soap Dish/ Towel Rail and other SS fitting	Camry/ Glacier/ Gem/ Jaquar/ Grohe/equivalent
64	CP Brass Fittings	Jaquar/ Hindware/ Crome/ Cera/equivalent
65	Floor Drain Fixture & Channel Gratings	Chilly/ Neer/ ACO/equivalent
66	C.P .Grating for Floor Trap	Chilly/ CockroachTrap/ GMGR/equivalent
67	Cast Iron Pipes & Fittings Manhole covers and frames	Electro Steel Calcutta/ Kesoram Calcutta/ NECO/ R.I.F./ B.I.C./ Hepco/ SKF/ Kajeco/equivalent
68	PVC Storage Tanks	Sintex/ Rotoplast/ Electroplast/ Fusion/ Polycon / Prince/equivalent
69	Anticorrosive Tape for Pipe Protection	PYPKOTE/equivalent
70	Pressure Gauge	HGuru/ Fiebig/ Dwyer/equivalent
71	PTMT Fittings	Prayag/ Jaquar/ Cera/ Prayag/ Polytuf/equivalent

Note:

1. The Engineer-in-charge is at liberty to select any of the brands indicated above. The contractor obtains prior approval from Engineer-in-charge before placing the order listed above.

2. Change of any make of material in case of its non-availability or any other such reason shall be at the discretion of the Engineer-in-charge. The Contractor shall not be allowed to change the makes without their prior permission.

3. Equivalent make of any item may be added with the approval of Engineer in charge, wherever makes have not been specified for certain items, the same shall be as per BIS and as per approval of Engineer.

4. In case of items for which approved make is not given above, the Contractor shall place the order with the prior approval of the Engineer-in-charge.

5. In case of Contradiction between the approved makes/brands specified above and mentioned in the Specifications /Bill of quantities. The decision of the Engineer-in-Charge shall be final and binding on the Contractor.

6. All materials should confirm to relevant standard and codes of BIS and shall have ISI mark.

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TECHNICAL SPECIFICATION & CONDITIONS – ELECTRICAL SERVICES

1.1. SCOPE OFWORK

The bidder shall supply, install and commission along with requisite spare, maintenance tools and tackles the following equipment and system in the Project. The scope also covers the detailed engineering and calculations of the various equipment/system mentioned hereunder and the same shall be approved by the HLL/Engineer-in-charge prior to execution of the job.

• Light fixtures – internal
• Wiring devices – switches &sockets
• Earthing.
• Laying and termination of L.T. cables.
• Distribution Boards / Sub-Distribution Board.
• Providing power supply to equipment's
• Complete internal building wiring as per specification.
• Safety to personnel and equipment during both operation and maintenance.
• Reliability of Service.
• Ease of maintenance and convenience of operation.
• Electrical supply to equipment and machinery with in the design operating limits.
• Adequate provision for future expansion and modification.
• Maximum interchange ability of equipment.
• Fail-safe feature.
• Suitability for applicable environmental factors.
• All the necessary Approvals & Liasoning for Load enhancement from present approved load to the required load shall be in the scope of the contractor.

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LISTOFAPPROVEDMAKES		
Sl. No	**Item**	**Makes**
1	Steel conduit	BEC/AKG/PRECISION/ATUL
2	PVC Conduit & Accessories	AvonPlast,Atul,Polycab,Precision,Balco,Konseal,Anchor/equivalentISImakes
3	PVC Insulated CU, Conductor FRLS Wires/Cables	RR-KABEL/National/Ralison/RKG/Finolex/Polycab/Havells.
4	Modular type Switches and Socket Outlet.	Clipsal/Legrand/Crabtree(Havells)/Wipro/MK
5	Step Type Electronic Regulators	Clipsal/Legrand/Anchor/WIPRO/Havells/Schneider
6	Single Phase Industrial Type Socket Outlet	Legrand/Siemens/ABB/GEorEquivalentasperthedirectionofconcernedengineerincharge.
7	LT Panel/M.V Cubicles Boards	L&T/Siemens/Schneider/Tricolite/Milestone/orCPRI Approved Panel Manufactures.
8	Air Circuit Breakers	L&T/Siemens/ABB/Schneider/Crompton/GE
9	MCB's/Isolators/RCBO/RCCB	Legrand/C&S/L&T/ABB/Siemens/Schneider/Havells/HPL
10	MCCB	Siemens/ABB/Schneider(M&G)/ L&T/C&S/Legrand/HPL/Havells
11	Protection relays	L&T/ABB/Scheider/C&S/Siemens
12	Fuse Disconnector Switch/SFU/Fuse	L&T/Siemens/ABB
13	Multifunction meter	Schneider/Siemens
14	LT Cables (XLPE)	Polycab/RRKabel/KEI/Bonton/Havells/Finolex
15	Rising Mains/BUS Trunking	Tricolite/L&T /Zeta /C&S
16	Mineral/Rockwool	UP Twiga/F‹sr/nearedSell/Equiv.
17	Acoustic Enclosure	Jakson/ Sudhir/SuperNova/neiiable/
18	Anti-Vibration Mountings	Dunlop/Resistoflex/Equiv
19	Response Indicator	Minimax/Agni
20	Exit Signs	Hilite/Legrand
21	Light Fittings	Philips/ Bajaj/Crompton/Havells/Wipro / asapproved byElec.Engineer
22	Ceiling fans	Orient/Crompton/Khaitan/Polar/Usha
23	Poles	Reputed(AsperISandsubjectto approvalfromEngineer-in-Charge
24	Motor	Siemens/ABB/BB/Crompton

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LISTOFAPPROVEDMAKES		
Sl. No	**Item**	**Makes**
25	Data and Voice Networking Cable	AMP/Systimax
26	Patch Panel	AMP/Systimax
27	Information Outlets	AMP/Systimax
28	Patch Cords	AMP/Systimax
29	Terrace Pumps (Electric and Diesel Driven)	Kirloskar/Beacon/KSB /M&P
30	Pumping set	Kirloskar/Beacon/KSB /M&P
31	Single Headed Hydrant Valves, Four Way Fire Brigade Inlet	Minimax/Newage/Steelage/Tyco
32	Exhaust Fan	Havells/Crompton/AnchorbyPanasonic/Almonard/Bajaj
33	Ceiling Rose	Anchorbypanasonic/Havells
34	Servo Stabilizer	ApprovedISI Standards
35	Indicating Meters	HPL/L&T/Meco/Rishabh/Universal/ABB
36	kWH, kW Meters/TOD	HPL/L&T/Enercon/Meco/Rishabh/Universal/ABB
37	UPS	Numeric/EATON/Delta/Luminous/Schneider
38	Capacitor	L&T/Conzerv/SHREEM
39	Earth leakage relay	L&T/ELMEASURE/ABB
40	Battery Chargers	Uptron/VolstatElectronics/StatconAE
41	Change over switch	L&T/C&S/Socomec/ABB

Note:

1. Change of any make of material in case of its non-availability or any other such reason shall be at the discretion of the Engineer-in-charge. The Contractor shall not be allowed to change the makes without their prior permission.

2. Equivalent make of any item may be added with the approval of Engineer in charge, wherever makes have not been specified for certain items, the same shall be as per BIS and as per approval of Engineer.

3. In case of items for which approved make is not given above, the Contractor shall place the order with the prior approval of the Engineer-in-charge.

4. In case of Contradiction between the approved makes/brands specified above and mentioned in the Specifications /Bill of quantities. The decision of the Engineer-in-Charge shall be final and binding on the Contractor.

5. All materials should confirm to relevant standard and codes of BIS and shall have ISI mark.

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ELECTRICAL ITEMS:

GENERAL:

The contractor shall consider the following details in their scope of works no additional cost shall be paid, wherever required:

• All Switch gears shall conformsIcs = 100% Icu as per IEC 61439 part 1 &2

- Proper bonding to earth.
- Supporting rigid steel framework.
- Painting/ lettering on Breakers and distribution boards, the location they serve, providing on each panel its circuit diagram.
- Providing cable clamps/supports within distribution boards cable alley.
- All MCB's /MCCB shall be of minimum KA breaking capacity as per CPWD General Specification Part-IV Substation
- All MCCB's shall be provided with operating mechanism for door interlock.
- All hinged door shall be earthed through 2.5sqmm tinned braided copper wire.
- Tinned copper earth bus shall be provided throughout the length of each board.
- Pad locking of Switch board doors.
- Medium voltage switch boards/distribution boards, the combination of both these and components shall conform to the equipment's of the latest revision including amendments of the following codes and standards.
- All MCB's used for protection of resistive and lightly inductive load shall be type "B" characteristic and inductive (motor) load shall be of type "C" characteristic and discharge lamps and UPS etc. shall be of type D characteristic.
- The drawings, specification and BOQ complement each other and which is shown or called for one shall be interpreted as being called for on both. Material, if any, which may not have been specified but fairly required to make a complete assembly of switch gear as shown on the drawing, specifications shall be construed as being required and no extra charges shall be payable on this account.

WIRING:

Control and protective wiring shall be done with copper conductor PVC insulated 1100 volts grade multi-stranded flexible wire of 1.5/2.5/4 sq.mm cross section. The colour coding shall be as per latest edition of IS: 375.

Each wire shall be identified by plastic ferrule. All wire termination shall be made with type connection. Wire shall not be taped or spliced between terminal points.

Terminal blocks shall preferably by grouped according to circuit function and each terminal block group shall have at least 20% spare capacity.

Not more than one wire shall be connected to any terminal block. All doorframe of L.T. switchboard shall be earthed with bare braided copper wire.

EARTHING:

All electrical equipment is to be earthed by connecting two earth tapes from the frame of the equipment to a main earthing. The earthing ring will be connected via several earth electrodes. The cable armour will be earthed through cable glands. Earthing shall be in conformity with provision of rules 32, 61, 62, 67&68 of Indian Electricity Rules 1956 and as perIS-3043-1989.

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The following shall be earthed:
All fixtures, sockets outlets, fans, switch boxes and junction boxes etc. shall be earthed with PVC insulated copper wire as specified in item of work. The earth wires ends shall be connected with solder less bottle type copper lugs.
The resistance between earthing system and the general mass of earth shall not be greater than 1ohm.
The earth loop resistance to any point in the electrical system shall not be in excess of 1 ohm in order to ensure satisfactory operation of protective devices.
All earthing conductors shall be of high conductivity copper/ G.I. as per B.O.Q. and shall be protected against mechanical damage. The cross-sectional area of earth conductors shall not be smaller than half that of the largest current carrying conductor.

L.T. CABLES &WIRE

a) Wires

The design manufacture, testing and supply of single core LEAD FREE FRLS PVC insulated 1.1 KV grade multi-stranded twisted wires under this specification shall comply with latest edition of following standards.
IS:3961 Current rating for cables.
IS:5831 PVC insulation and sheath of electric cables.
IS:694 PVC insulated cables for working voltage up to and including 1100volts. IEC:754(i) FRLS PVC insulated cable.
Copper multi-stranded twisted conductor FRLS PVC insulated wires shall be used in conduit as per item of work.
The wires shall be colour coded R Y B, for phases, Black for neutral and Green for earth.
Progressive automatic in line indelible, legible and sequential marking of the length of cable in meters at every one metre shall be provided on the outer sheath of wire.
Progressive automatic in line indelible, legible and sequential marking of the length of cable in meters at every one metre shall be provided on the outer sheath of wire.
The material & insulation of wires shall be ROHS compliant (Reduction of Hazardous Substance) and shall comply the following directives:
EU Directive 2002/95/EC Issued Jan 2003
EU Directive 94/62/EC and 2004/12/EC (amendment) EU Directive 91/338/EEC
EU Directive 91/157/EEC & 98/101/EC (amendment)
Summary on related directives

Directive Ref.	Date	Objective	Remarks
2002/95/EC	27Jan03	Restriction of the use of certain hazardous substances in	6 banned materials included Pb (Lead), Hg (mercury), Cr6+ (Hexavalent Chromium), Cd (Cadmium) and Flame Retardants- Polybrominated Biphenyls – PBB

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Directive Ref.	Date	Objective	Remarks
		electrical and electronic equipment (EEE) and to contribute to the protection of human health and the environmentally sound recovery and disposal of waste EEE.	1000ppm &PolybrominatedDiphenyls Esters-PBDE1000ppm. Max. conc. value - 0.1% by weight in homogeneous material for Pb, Hg, Cr6+, PBB/ PBDE Max. conc. value - 0.01% weight in homogenous material for Cd.
94/62/EC	20Dec94	Amending directive 94/62/EC, on Packaging	The targets defined are the following:
2004/12/EC (amendment)	2Nov04	and Packaging Waste is to prevent packaging waste by encouraging packaging re-use and recycling while at the same time avoid distortions in the internal market.	Recovery of minimum 60% by weight of the packaging waste Recycling of at least 55% and a maximum80%byweightofthetotally of packaging materials, with a material-specific minimum recycling rate for plastic of22.5% Max. sum of concentration levels of Pb,

b) Cables

The design, manufacture, testing and supply of the cable under this specification shall comply with latest edition of following standards:

IS:8130 Conductors for insulated electric cables and flexible cords .IS:7098 XLPE insulation and sheath of electric cables.

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IS:3975 Mild steel wires, strips and tapes for armoring cables. IS:7098 Current rating of cables.

IS:7098 XLPE insulated (heavy duty) electric cables for working voltage up to and including 1100volts.

IS:424-1475(F-3)Power cable-flammability test.

Specification for cross-linked polyethylene insulated XLPE sheathed cable for working voltage up to 1.1 KV.

Specification for XLPE insulated (heavy duty) electric cables for working voltages up to and including 1100 volts.

ASTM-D: 2863 Standard method for measuring the minimum oxygen concentration to support candle-like combustion of plastics (Oxygen Index).

ASTM-D: 2843 Standard test method for measuring the density of smoke from the burning or decomposition.

c) Technical Requirements:

The cables shall be suitable for laying in racks, ducts, trenches conduits and under-ground buried installation with uncontrolled back fill and chances of flooding by water.

They shall be designed to withstand all mechanical, electrical and thermal stresses under steady state and transient operating condition.

The aluminium /copper wires used for manufacturing the cables shall be true circular/sector in shape before stranding and shall be of uniformly good quality, free from defects. The conductor used in manufacture of the cable shall be of H2grade.

The cable should withstand 25 KA for 0.5 sec with insulation armour insulated at one end. Bidder shall furnish calculation in support of capability to withstand the earth fault currents. The current carrying capacity of armour and screen (as applicable) shall not be less than the earth fault current values and duration.

Laying of Cable:

The cable drum shall be placed on jacks before unwinding the cable. Great care shall be exercised in laying cables to avoid forming links. At all changes in directions in horizontal & vertical places, the cable shall be bent with a radius of bend not less than 8 times the diameter of cable.

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The cable of 1.1KV grade shall be laid not less than 750mm below ground level in 36
a 375mm wide trench(throughout), where more than one cable is to be laid in the same trench, the width of the trench shall be increased such that the interaxial spacing between the cables except where otherwise specified shall at least be 150mm minimum or as per site requirements or as approved by the Engineer-in-charge. Where single core cables are used in multiphase systems, the cables shall be installed in trefoil where possible.

INTERNAL ELECTRICAL WORKS:

1) PVC Conduit:

All conduits shall be high impact rigid 2mm thickness PVC heavy duty type and shall comply with I.E.E. regulations for non-metallic conduit 2mm thick as per IS-40 9537/1983 (Part-III). All sections of conduit and relevant boxes shall be properly cleaned and glued by using epoxy resin glue and the proper connecting pieces. Inspection type conduit fittings such as inspection boxes, drawn boxes, fan boxes and outlet boxes shall be M.S. or otherwise mentioned. Conduit shall be terminated with adopter/PVC glands as required.

Accessories:

Conduit accessories such as normal bends, unions, circular junction boxes and pull boxes, locknuts etc. shall be heavy gauge type and approved make. Conduit accessories shall conform in all respects to IS: 3837-1966 with latest amendment. Wherever several conduits are running together, adequately sized adoptable boxes common to all runs shall be used to avoid inserting inspection boxes in the individual run. Where it is necessary to segregate wiring metal filler shall be fixed with in the box.

Separate conduit shall be used for:

1) Normal light, fan call bell
2) 16 A power outlets
3) Emergency Light Point
4) Fire alarm System
5) Computer Outlets
6) P.A System
7) Telephone system
8) TV Network
9) Or any other services not mentioned here.

Wiring for short extensions to outlets in hung ceiling or to vibrating equipments, motors etc. shall be installed inflexible conduits. Flexible conduits shall be formed from a continuous length of spirally wound interlocked wire steel with a fused zinc coating on both sides. The conduit shall be provided with approved type adopter. A separate and accessible earth connection shall bond across the flexible conduit.

Conduit runs on surfaces shall be supported with metal 1.2mm thick saddles, which in turn are properly secured on to GI spacer to the wall or ceiling. Fixing screws shall be with round or cheese head and of rust proof materials. Exposed conduits shall be neatly run parallel or at right angles to the walls of the building and shall be painted in color matching the adjoining area. Unseemly conduit bends and offsets shall be avoided by using better appearance. Cross cover of conduits shall be minimum and entire conduit installation shall be clean and with good appearance. For surface work, the boxes shall be raised back

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pattern type, designed for use with distances addles to give clearance of 6mm between the back of conduit and the fixing surface.

Wiring:

All the wiring installation shall be as per IS: 732 with latest amendment. PVC insulated copper conductor cables as specified in bills of quantity shall be used for sub-circuit runs from the distribution boards to the points and shall be pulled into conduits. They shall be twisted copper conductors with the rmo plastic insulations of 660/1100volts grade. Colour Code for wiring shall be followed.

Looping system of wiring shall be used, wires shall not be jointed. Where joints are Mandivoidable, they shall be made through approved mechanical connectors with prior permission of the HLL. No reduction of strands is permitted at terminations. No wire smaller than1.5sq.mm shall be used and shall be as per B.O.Q. Wherever wiring is run through trunkings or raceways, the wires emerging from individual distributions shall be bunched together with cable straps at required regular intervals. Identification ferrules indicating the circuit and DB number shall be used for submains sub-circuit wiring. The ferrules shall be provided at both end of each submain and sub-circuit.

Where single-phase circuits are supplied from a three phase and a neutral distribution board, no conduit shall contain the wiring fed from more than one phase. In any one room in the premises where all or part of the electrical load consists of lights, fans and/or other single phase current consuming devices, all shall be connected to the same phase of the supply. Circuits fed from distinct sources of supply or from different distribution boards or through switches or MCBs shall not be bunched in one conduit. In large areas and other situations where the load is divided between two or three phase, no two single-phase switches connected to different phase shall be mounted within one box.

Conduit size	20mm		25mm		32mm		40mm		50mm		60mm	
Wire size in sq.mm.	S	B	S	B	S	B	S	B	S	B	S	B
1.50	7	5	12	10	20	14	-	-	-	-	-	-
2.50	6	5	10	8	18	12	-	-	-	-	-	-
4	4	3	7	6	12	10	-	-	-	-	-	-
6	3	2	6	5	10	8	-	-	-	-	-	-
10	2	-	4	3	6	5	8	6	-	-	-	-
16	-	-	2	-	4	3	7	6	-	-	-	-
25	-	-	-	-	3	2	5	4	8	6	9	7

Notes:

The above table shows the maximum capacity of conduits for a simultaneous drawing in of cables.

The columns heads ‘S’ apply to runs of conduits which have distance not exceeding 4.25 m between draw in boxes and which do not deflect from the straight by an angle of more than 15 degrees. The columns heads ‘B’ apply to runs of conduit which deflect from the straight by an angle of more than 15 degrees.

The Contractor shall be responsible for:

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Detailed co-ordination with other services, shop drawings for various electrical layouts such as equipment layout, lighting layouts, cabling layouts, earthing and lightning protection layouts, including equipment installation and cable termination details etc. prior to start of work.

- Preparation of bill of materials for cabling, lighting, earthing and miscellaneous items etc.
- Cable schedule.
- Lighting/power panel schedule.
- Inter connection drawing.
- Protection co-ordination drawings/tables for complete power system.
- Shop inspection and testing procedures.
- Field testing and commissioning procedures.
- Preparation of as built drawings for all services.

SIGNATURE & SEAL OF THE BIDDER

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Part V

PRICE BID

(In Company's Letter head with Sign & Seal)

TENDER FOR MODIFICATION WORK AT FIRST FLOOR OF NATIONAL HEALTH MISSION STATE OFFICE TRIVANDRUM DISTRICT, KERALA

Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
	Civil Works				
1	**DISMANTILING AND DEMOLISHING**				
1.01	Dismantling aluminium / Gypsum partitions, doors, windows, fixed glazing and falseceiling including disposal of unserviceable surplus material and stacking ofserviceable material with in 50 metres lead as directed by Engineer - in-Charge	sqm	4.641		
2	**ALUMINIUM WORKS**				
2.01	Providing and fixing aluminium work for doors, windows, ventilators and partitionswith extruded built up standard tubular sections/ appropriate Z sections and othersections of approved make conforming to IS : 733 and IS: 1285, fixing with dashfasteners of required dia and size, including necessary filling up the gaps at junctions,i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc.Aluminium sections shall be smooth, rust free, straight, mitred and jointedmechanically wherever required including cleat angle, Aluminnium snap beading forglazing /paneling, C.P. brass/ stainless steel screws, all complete as per architecturaldrawings and the directions of Engineer-in-charge.(Glazing, paneling and dashfasteners to be paid for separately): For fixed portionPowder coated aluminium (minimum thickness of powder coating50 micron)	kg	44.230		
2.02	For shutters of doors, windows & ventilators including providing and fixinghinges / pivots and making provision for fixing of fittings wherever requiredincluding the cost of EPDM rubber/ neoprene gasket required (Fittings shall be paidfor separately)Powder coated aluminium (minimum thickness of powder coating 50micron)	kg	16.313		

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Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
2.03	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layeror graded wood particle board conforming to IS : 12823 Grade I Type II, in panellingfixed in aluminum doors, windows shutters and partition frames with C.P. brass /stainless steel screws etc. complete as per architectural drawings and directions ofEngineer - in- Charge.Pre- laminated particle board with decorative lamination onboth sides	sqm	7.317		
2.04	Providing and fixing glazing in aluminium door, window, ventilator shutters andpartitions etc. with EPDM rubber / neoprene gasket etc. complete as per thearchitectural drawings and the directions of Engineer - in -Charge. (Cost ofaluminium snap beading shall be paid in basic item):With float glass panes of 4.0 mmthickness	sqm	6.740		
2.05	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating notless than grade AC 10 as per IS : 1868) transparent or dyed to required colour orshade, with necessary screws etc. complete:125 mm	Nos	4.000		
2.06	Providing and fixing 100 mm brass locks (best make of approved quality) foraluminium doors including necessary cutting and making good etc. complete	each	2.000		
2.07	Providing and fixing aluminium tower bolts, ISI marked, anodised(anodic coating notless than grade AC 10 as per : 1868), transparent or dyed to required colour or shade,with necessary screws complete:200x10 mm	Nos	2.000		
2.08	Providing and fixing aluminium extruded section body tubular type universalhydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body,door weight upto 36 kg to 80 kg and door width form 701 mm to 1000 mm), withdouble speed adjustment with necessary accessories and screws etc. complete.	Nos	2.000		
3	**PAINTING**				
3.01	Removing white or colour wash by scrapping and sand papering and preparing thesurface smooth including necessary repairs to scratches etc. complete	sqm	44.482		
3.02	Finishing with Deluxe Multi surface paint system for interiors and exteriors using primer as per manufacturers specifications:Two or more coats applied on walls @1.25 ltr/10 sqm over and including one coat of special primer applied @ 0.75 ltr /10sqm	sqm	44.482		

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Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
3.03	Finishing with Deluxe Multi surface paint system for interiors and exteriors usingprimer as per manufacturers specifications:Painting wood work with Deluxe MultiSurface Paint of required shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.75 ltr/10 sqm of approved brand and manufacture	sqm	2.784		
4	**WATER SUPPLY AND FITTINGS**				
4.01	Providing and fixing C.P. brass pillar taps with elbow operated levers ISI marked, 15mm nominal bore.	each	1.000		
4.02	Providing and fixing white vitreous china pedestal type water closet (European typeW.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, includingflush pipe, with manually controlled device (handle lever), conforming to IS : 7231,with all fittings and fixtures complete, including cutting and making good the wallsand floors wherever required:W.C. pan with ISI marked white solid plastic seat andlid	each	1.000		
4.03	Supplying and fixing CP Health Faucet with hose and hook including cost ofmaterials and labour charges etc complete as per the direction of site Engineer-incharge	Nos	1.000		
4.04	Providing and fixing P.V.C. low level flushing cistern with manually controlleddevice (handle lever) conforming to IS: 7231, with all fittings and fixturescomplete.10 litre capacity - White	each	1.000		
5	**CURTAIN WORKS**				
5.01	Providing and fixing of zebra roller blinds width 100 mm regular quantity made from100 % polyster/Fibre yarn coated with fade resistant polymer to ensure completeopaquety with zero light transmittance, having suitable coating on exterior, includingall fixtures and fittings complete in all respect as per design and instruction ofEngineer in-charge and as per site conditions. The colour will be approved by thecompetent authority. and inclusive of all labour charges.	sqm	6.863		
6	**CARPENTRY AND FURNITURE**				
6.01	Repair for carpentry works like furniture, work station, wall units by cutting, paintingetc. and refixing of repaired parts to existing frames, including replacement of hingeswith screws,labour charge etc. as required, all complete as per the direction of the Engineer-in-charge.	sqm	4.418		

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Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
6.02	Providing & Fixing large executive office table, made up of 18mm particle boardwith lamination on both sides. Side partitions, drawers, racks, lock and laches etcincluding all complete both side laminated top. with 18 mm thick door and 9 mmthick both side laminated drawer bottom and back panel including necessaryapproved hinge, telescopic slide ,multipurpose lock ,hanger rod of 25mm dia 16gauge nickel plated MS Pipe ,2nos. tower bolt of barrel type having size 150 x 10mm,4 nos. magnetic catcher triple strip vertical type of approved quality, 128 mm handle ,kd/minifix fitting, edges to be sealed with PVC edge bending tape 2.00 mm thick ofapproved brand fixture and finishing etc.. complete job. as per approved shade andcolour and as per Architecture drawing and Engineer in Charge.	each	1.000		
6.03	Providing & Fixing premium executive chair .The seat & back are made upof 12mm thick hotpressed plywood, upholstered with fabric & moulded withPolyurethane foam seat and back covers. The back foam should designed withcontouredlumbar support for extra comfort .The seat has extra thick foam on frontedge to give extra comfort.Mid back size 475 mm Width x 580 mm Height mm. Andseat size 470 mm Width x 480 mm Thepolyurethane foam should bemoulded withdensity = 45 kg/m3 and hardness = 16 +/2 kg on hampdem machine at 25%compression .Armrest are injection moulded from black copolymer polypropylene.The mechanism should befixed 360 degree revolving type,Upright position locking,tilt tension adjustment, seat back tilting ratio 1:3. The pneumatic height adjustmenthas an adjustment stroke of 12 cm. The pedestal should be injection moulded in black33 % glass filled in nylon 66 with 5 nos twin wheel castors. The pedestal should be66.3 cm pitch-center diameter.	each	1.000		

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Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
6.04	Providing & good quality Fixing visitor's chair .The seat &back are made up of 12mmthick hotpressed plywood, upholstered with fabric & moulded withPolyurethane foam seatand back covers. The back foam should designed with contouredlumbar support forextracomfort .The seat has extra thick foam on front edge to give extra comfort.Mid backsize 475mm Width x 580 mm Height mm. And seat size 470 mm Width x 480 mmThepolyurethanefoam should bemoulded with density = 45 kg/m3 and hardness = 16 +/2 kg onhampdemmachine at 25% compression .Armrest are injection moulded from black copolymerpolypropylene. The mechanism should befixed 360 degree revolving type,Uprightpositionlocking, tilt tension adjustment, seat back tilting ratio 1:3. The pneumatic heightadjustment hasan adjustment stroke of 12 cm. The pedestal should be injection moulded in black 33% glass filled in nylon 66 with 5 nos twin wheel castors. The pedestal should be 66.3 cmpitch-centerdiameter.	each	3.000		
7	**TILE WORKS**				
7.01	Providing and laying vitrified floor tiles in different sizes (thickness to be specified bythe manufacturer) with water absorption less than 0.08% and conforming to IS :15622, of approved make, in all colours and shades, laid on 20 mm thick cementmortar 1:4(1 cement : 4 coarse sand), including grouting the joints with white cementand matching pigments etc., complete.Size of Tile 600 x 600 mm.	sqm	0.095		
7.02	Grouting the joints of flooring tiles having joints of 3 mm width, using epoxy groutmix 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kgof resin per kg). including filling /grouting and finishing complete as per direction ofEngineer-in-charge.Size of Tile 600x600 mm	sqm	0.095		
	Electrical Works				
8	**POINT WIRING**				

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Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
8.01	Supply and wiring points according to IS 732-1989 using rigid PVC conduit of minimum size 20 mm with specials conforming to IS 9537 part III 1983 and with suitable size specials conforming to IS 3419-1988, fixing the conduit using metal saddles spacing not exceeding 50 cm or concealed suitably and with 1.00 sq mm FRLS PVC insulated stranded single core copper conductor cable 650V grade, including providing switch board main and continuous earthing with No.14 SWG bare copper,required quantity of copper earth socket, brass bolt and nut crimping/ soldering etc complete with suitable size modular type metal switch boxes, modular type front plates (white) etc. up to and including 6A modular type SP switches and making good the surface of wall, colour washing etc. complete. All the terminations in the switch boards and DB's shall be tinned and the wires shall be drawn and fixed along the periphery of the box using suitable ties, tie mounts etc as required. (RoHS compliant modular accessories).Single Control light point with 6A, plate ceiling rose - Short point	point	1.000		
8.02	Supply and wiring points according to IS 732-1989 using rigid PVC conduit of minimum size 20 mm with specials conforming to IS 9537 part III 1983 and with suitable size specials conforming to IS 3419-1988, fixing the conduit using metal saddles spacing not exceeding 50 cm or concealed suitably and with 1.00 sq mm FRLS PVC insulated stranded single core copper conductor cable 650V grade, including providing switch board main and continuous earthing with No.14 SWG bare copper,required quantity of copper earth socket, brass bolt and nut crimping/ soldering etc complete with suitable size modular type metal switch boxes, modular type front plates (white) etc. up to and including 6A modular type SP switches and making good the surface of wall, colour washing etc. complete. All the terminations in the switch boards and DB's shall be tinned and the wires shall be drawn and fixed along the periphery of the box using suitable ties, tie mounts etc as required. (RoHS compliant modular accessories).Single control ceiling fan point with 6 A, 3 plate ceiling rose & with socket size stepped electronic regulator. - Short point	point	1.000		

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Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
8.03	Supply and wiring points according to IS 732-1989 using rigid PVC conduit of minimum size 20 mm with specials conforming to IS 9537 part III 1983 and with suitable size specials conforming to IS 3419-1988, fixing the conduit using metal saddles spacing not exceeding 50 cm or concealed suitably and with 1.00 sq mm FRLS PVC insulated stranded single core copper conductor cable 650V grade, including providing switch board main and continuous earthing with No.14 SWG bare copper,required quantity of copper earth socket, brass bolt and nut crimping/ soldering etc complete with suitable size modular type metal switch boxes, modular type front plates (white) etc. up to and including 6A modular type SP switches and making good the surface of wall, colour washing etc. complete. All the terminations in the switch boards and DB's shall be tinned and the wires shall be drawn and fixed along the periphery of the box using suitable ties, tie mounts etc as required. (RoHS compliant modular accessories).Independent plug - Short point	each	5.000		
9	**CIRCUIT WIRING**				
9.01	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface / recessed medium class PVC conduit as required2x1.5 sq.mm + 1x1.5 sq.mm earth wire	metre	11.100		
9.02	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface / recessed medium class PVC conduit as required2X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	metre	4.000		
9.03	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface / recessed medium class PVC conduit as required2 X 4 sq. mm + 1 X 4 sq. mm earth wire	metre	10.000		
10	**METAL BOXES ,SWITCH AND SOCKETS**				
10.01	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.5/6 amps switch	each	2.000		
10.02	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.3 pin 5/6 amp socket outlet	each	2.000		

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Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
10.03	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc as required.1 or 2 Module (75mmX75mm)	each	1.000		
10.04	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc as required.4 Module (125mmX75mm)	each	1.000		
10.05	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc as required.6 Module (200mmX75mm)	each	2.000		
10.06	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.15/16 amp switch	each	2.000		
10.07	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.6 pin 15/16 amp socket outlet	each	3.000		
10.08	Supplying and fixing following modular switch/ socket on the existing modular switch box including connections but excluding modular plate etc. as required.32 amp switch	each	1.000		
11	**POWER CIRCUITARY**				
11.01	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, 'C' curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.Single pole	each	1.000		
12	**FITTINGS**				
12.01	SITC OF 9W LED Bulb with angle batten holder directly on to wall including drilling and fixing making necessary connections and make as approved by engineer in charge or Electrical Engineer	nos	1.000		
12.02	Supply, Installation, testing and commissioning of ceiling fan of following sizes including wiring the down rods of standard length (up to 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable etc. as required. 1200mm sweep - ceiling fan complete with service value minimum 4.0(cub meter/minute/Watt), Air delivery minimum 210(cubic meter/minute), Copper winding suitable for 230V/240V single phase AC supply	each	1.000		
13	**AC WORK**				

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Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
13.01	Supply, Installation, Testing and Commissioning of 1.0TR - 3 Star rated Inverter type split AC units , Hi-wall mounted, preferably with anti corrosive / powder coated outdoor units, fitted with hermitically sealed suction cooled energy efficient Scroll / Rotary compressor operating on R-32 / HFC-134a / 407 C / 410 A refrigerant suitable for operation on 220 V, 1 Ph, 50 Hz A/C supply. The units shall be inclusive of all standard accessories like power & control cables, good quality copper tubing of minimum 3 meter length to interconnect the outdoor unit with indoor unit for refrigerant lines, elastomeric Nitrile rubber insulation, clamps etc. Notes: (1) Condenser tubes, Evaporator tubes & connecting pipes should be made out of good quality copper. (2) High-energy efficient compressor of rotary / Scroll type (3) Cordless remote for setting Temp, on time, off time, power saving mode, auto mode operation, sleep mode, auto setting with memory backup, time delay feature, programmable timer, etc. with real time clock. (4) Warranty: 5 Years on PCB, 10 years warranty on compressor and one year warranty for the total system from the date of handing over/ commissioning Make: Blue Star / Voltas / Carrier Midea / Hitachi / Daikin / Panasonic / Mitsubishi / Toshiba / Trane / O General or equivalent	each	1.000		
13.02	Dismantling, re installation and commissioning of HiWall Split AC (IDU and ODU) units (1.0TR/1.5TR/2.0TR) with water service, gas top up, including all necessary fittings for recommissioning complete as required as per the direction of Engineer in charge.	each set	1.000		
13.03	Drain Piping for Split ACs: Supply & installation of PVC insulated piping for condensate drain Including wall chasing, necessary supports, Clamps etc complete as required	metre	11.400		
13.04	Additional refrigerant Copper piping Kit for Split ACs : Supplying and installation of additional refrigerant piping kit consisting of power and control cables, good quality copper tubing, Elastomeric Nitrile rubber insulation etc. for Split AC units.	metre	11.400		

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Modification work at NHM office Thiruvananthapuram					
SN	**DISCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
13.05	Supply and laying of 75mm medium class pvc casing cap along with all accessories as required.	per metre	6.300		
TOTAL (Excl. of GST)					

Date: **SIGNATURE & SEAL OF THE BIDDER**