

# HLL INFRA TECH SERVICES LTD. (HITES)

## NOTICE INVITING E-TENDER

Tender No. HITES/IDS/22/20

Dated: 11.11.2022

HLL Infra Tech Services Ltd (HITES) on behalf of Institute of Advanced Virology, Government of Kerala invites on-line Item Rate bids from eligible contractors/firms for the following work

Name and Description of work	Estimated cost Excluding GST (Rs.)	Completion period of Work	Last date & time to submit the e-tender
ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR INSTITUTE OF ADVANCED VIROLOGY, THONNAKKAL, TRIVANDRUM	Rs. 3,67,49,212.41/-	03 months	28.11.2022 at 3.00 pm

For submission & other tender details, please refer detailed NIT on e-tender portal [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), [www.hllhites.com](http://www.hllhites.com), <https://iav.kerala.gov.in/> and Central Public Procurement Portal

HITES/ Client reserves the right to accept or reject any application without assigning any reason or incurring any liability whatsoever. Prospective bidders are advised to regularly scan through [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), [www.hllhites.com](http://www.hllhites.com), <https://iav.kerala.gov.in/> and Central Public Procurement Portal as corrigendum/amendments etc., if any, will be notified on this portal only and separate advertisement will not be made for this.

VC link for pre bid meeting scheduled at HITES office Trivandrum on 17.11.2022 at 11AM : [meet.google.com/qsv-nmyq-phh](https://meet.google.com/qsv-nmyq-phh)

**Deputy General Manager (ID)**

**TENDER**

**FOR**

**ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR  
INSTITUTE OF ADVANCED VIROLOGY, THONNAKKAL,  
TRIVANDRUM**

**Tender No. HITES/IDS/22/20**

**Volume-2 GCC**



HLL Bhavan, Golden Jubilee Block,  
Poojappura, Trivandrum  
Pin code- 695012, Kerala  
Ph.: 0471 2775500  
[www.hllhites.com](http://www.hllhites.com)

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**NIT FORM 8  
HLL INFRA TECH SERVICES LIMITED**

**NAME OF WORK: ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR INSTITUTE OF ADVANCED VIROLOGY,  
THONNAKKAL, TRIVANDRUM**

- (i) To be uploaded by 15.00 hours on 28.11.2022
- (ii) To be opened at 15.00 hours on 29.11.2022

T E N D E R

I/We have read and examined notice inviting tender, schedule A, B, C, D, E & F, specifications applicable, Drawings & Design, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the Conditions of Contract and all other contents in the tender document for the work (Tender documents comprising of Volume I, II, III, IV, V & VI).

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

I /We agree to keep the tender open for 120 days from the date of opening of technical bid and not to make any modifications in its terms and conditions.

A sum of Rs. \_\_\_\_\_/-(Rupees \_\_\_\_\_ Only) is hereby paid as online through e-tender portal as earnest money.(Since a part of earnest money is acceptable in the form of bank guarantee, Rs. \_\_\_\_\_/-is deposited in the form as prescribed above and balance amount of Rs. \_\_\_\_\_/- is submitted in the form of bank Guarantee issued by a scheduled bank. If so, the original BG shall be submitted on or before the date specified in the tender document). If I/We, fail to furnish the prescribed performance guarantee or execute the agreement with Client/HITES within prescribed period, I/We agree that the said competent authority of HITES shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that competent authority of HITES shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee/Earnest money deposit absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

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

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

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

Dated.....

Signature of Contractor

Witness:

Postal Address: -

Address:

Occupation:

\*\*\*\*\*

A C C E P T A N C E

The above tender (as modified by you (Contractor) and as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the HLL Infra Tech Services Limited for a sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_)

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

(a)

(b)

For & on behalf of the HLL Infra Tech Services Limited

Signature \_\_\_\_\_

Designation \_\_\_\_\_

Dated.....

**INTEGRITY PACT**

To

.....

.....

**NAME OF WORK: ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR INSTITUTE OF ADVANCED VIROLOGY,  
THONNAKKAL, TRIVANDRUM**

Ref: Tender No. HITES/IDS/22/20 dated 11.11.2022

Dear Sir,

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

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

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

Yours faithfully

Tender Inviting Authority

INTEGRITY PACT

To

.....

*(Designated authority of CLIENT/HITES)*

**NAME OF WORK: ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR INSTITUTE OF ADVANCED VIROLOGY, THONNAKKAL, TRIVANDRUM**

Ref: Tender No. HITES/IDS/22/20 dated 11.11.2022

Dear Sir,

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

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that the making of the bid shall be regarded as an unconditional and absolute acceptance of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by the CLIENT/HITES. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Clause 12 of the enclosed Integrity Agreement.

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

Yours faithfully

(Duly authorized signatory of the Bidder)

**PRE-CONTRACT INTEGRITY PACT**

**To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of .....**

**INTEGRITY AGREEMENT**

This Pre-Contract Integrity Pact (herein after called the Integrity Pact) is made on \_\_\_\_\_ day of the month of \_\_\_\_\_

**Between**

HLL Infra Tech Services Ltd. [HITES], a wholly owned subsidiary company of M/s. HLL Lifecare Ltd. a Government of India Enterprise with registered office at HLL Bhavan, Poojappura, Thiruvananthapuram 695012, Kerala, India. (Hereinafter called "HITES", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Party.

**And**

M/s \_\_\_\_\_ with office at .....represented by Shri \_\_\_\_\_, Chief Executive Officer (hereinafter called the "BIDDER/Seller"/Contractor which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Party.

**Preamble**

[Both HITES and BIDDER referred above are jointly referred to as the Parties]

HITES intends to award, under laid down organizational procedures, Purchase orders / contract/s against Tender /Work Order /Purchase Order No. .... HITES desires full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder/s and Contractor/s.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

1. Enable HITES to obtain the desired materials/ stores/equipment/ work/ project done at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement; and
2. Enable the BIDDER to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and HITES will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

**Clause.1. Commitments of HITES**

- 1.1 HITES undertakes that HITES and/or its Associates (i.e. employees, agents, consultants, advisors, etc.) will not demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 1.2 HITES will, during the tender process / pre-contract stage, treat all BIDDERS with equity and reason, and will provide to all BIDDERS the same information and will not provide any such information or additional information, which is confidential in any manner, to any particular BIDDER which could afford an advantage



to that particular BIDDER in comparison to other BIDDERS in relation to tendering process or during the contract execution.

- 1.3 All the officials of HITES regarding this Integrity Pact will report to IEM if any, any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach shall not be permitted.
- 1.4 HITES will exclude from the process all known prejudiced persons and persons who would be known to have a connection or nexus with the prospective bidder.
- 1.5 If the BIDDER reports to HITES with full and verifiable facts any misconduct on the part of HITES's Associates (i.e. employees, agents, consultants, advisors, etc.) and the same is prima facie found to be correct by HITES, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by HITES. Further, such an Associate may be debarred from further dealings related to the contract process. In such a case, while an enquiry is being conducted by HITES the proceedings under the contract would not be stalled.

## **Clause 2. Commitments of BIDDERS/ CONTRACTORS**

2. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-
  - 2.1 The BIDDER will not offer, directly or indirectly (i.e. employees, agents, consultants, advisors, etc.) any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of HITES, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
  - 2.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of HITES or otherwise in procuring the contract or forbearing to do or having done any act in relation to obtaining or execution of the contract or any other contract with HITES for showing or forbearing to show favour or disfavor to any person in relation to the contract or any other contract with HITES.
  - 2.3 The BIDDER will not engage in collusion, price fixing, cartelization, etc. with other counterparty(s).
  - 2.4 The Bidder (s) will not pass to any third party any confidential information entrusted to it, unless duly authorized by HITES.
  - 2.5 The Bidder (s) will promote and observe ethical practices within its Organization and its affiliates.
  - 2.6 BIDDER shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
  - 2.7 The Bidder (s) will not make any false or misleading allegations against HITES or its Associates.
  - 2.8 BIDDERS shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.
  - 2.9 The BIDDER further confirms and declares to HITES that the BIDDER is the original manufacture/integrator/authorized government sponsored export entity of the defence stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to HITES or any of its functionaries, whether officially or unofficially to award the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
  - 2.10 The BIDDER while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of HITES or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
  - 2.11 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

- 2.12 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 2.13 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of HITES, or alternatively, if any relative of an officer of HITES has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filing of tender.

The term "relative" for this purpose would be as defined in Section 2(77) of the Companies Act 2013

- 2.14 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of HITES.
- 2.15 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract, and will not enter into any undisclosed agreement or understanding with other Bidders, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.16 The BIDDER will not commit any offence under the relevant Indian Penal Code, 1860 or Prevention of Corruption Act, 1988; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the HITES as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 2.17 The BIDDER will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 2.18 The Bidder(s)/Contractors(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly the Bidder(s) /Contractors(s) of Indian Nationality shall furnish the name and address of the foreign Principal(s), if any.
- 2.19 The Bidder(s) shall not approach the courts while representing the matters to IEM if any and the Bidder(s) will await their decision in the matter.

**Clause.3. Previous contravention and Disqualification from tender process and exclusion from future contracts**

- 3.1 The BIDDER declares that no previous contravention occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.
- 3.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

If BIDDER before award or during execution has committed a contravention through a violation of Clause 2, above or in any other form such as to put his reliability or credibility in question, HITES is entitled to disqualify the BIDDER from the tender process.

**Clause.4. Equal treatment of all Bidders/ Contractors / Subcontractors**

- 4.1 The Bidder(s)/ Contractor(s) undertake(s) to demand from his Subcontractors a commitment in conformity with this integrity Pact.
- 4.2 HITES will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 4.3 HITES will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

#### **Clause.5. Consequences of Violation/ Breach**

- 5.1 Any breach of the aforesaid provision by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle HITES to take all or any one of the following action, wherever required: -
- i. To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.
  - ii. If BIDDER commits violation of Integrity Pact Policy during bidding process, he shall be liable to compensate HITES by way of liquidated damages amounting to a sum equivalent to 5% to the value of the estimated cost or offer, whichever is higher.
  - iii. In case of violation of the Integrity Pact after award of the contract, HITES will be entitled to terminate the contract. HITES shall also be entitled to recover from the contractor liquidated damages equivalent to 10% of the contract value or the amount equivalent to security deposit/ performance guarantee, whichever is higher.
  - iv. To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
  - v. To recover all sums already paid by HITES, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from HITES in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid amount.
  - vi. To encash the advance bank guarantee and performance guarantee /warranty bond, if furnished by the BIDDER, in order to recover the payments already made by HITES, along with interest.
  - vii. To cancel all or any other contract with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to HITES resulting from such cancellation/recession and HITES shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
  - viii. To debar the BIDDER from participating in future bidding processes of HITES for a minimum period of five (5) years, which may be further extended at the discretion of HITES or until Independent External Monitors is satisfied that the Bidder (s) will not commit any future violation.
  - ix. To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
  - x. In cases where irrevocable Letters of credit have been received in respect of any contract signed by HITES with the BIDDER, the same shall not be opened.
  - xi. Forfeiture of performance guarantee in case of a decision by HITES to forfeit the same without assigning any reason for imposing sanction for violation of the pact.
- 5.2 HITES will be entitled to all or any of the actions mentioned in para 5.1(i) to (x) of this pact also on the commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal Code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.
- 5.3 The decision of HITES to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent External Monitor(s) appointed for the purposes of this Pact.

**Clause.6 : Fall Clause**

The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems OR providing similar services at a price/ charge lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found any stage that similar product/systems or sub systems was supplied by the BIDDER to any to the Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to HITES, if the contract has already been concluded.

**Clause 7 : DELETED**

**Clause.8: Criminal charges against violating Bidder(s)/ Contractor(s)/ Subcontractor(s)**

If HITES obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if HITES has substantive suspicion in this regard, HITES will inform the same to the Chief Vigilance Officer, HLL

**Clause.9. Facilitation of Investigation**

In case of any allegation of violation of any provisions of this Pact or payment of commission, HITES or its agencies shall be entitled to examine all the documents, including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

**Clause.10. Law and Place of Jurisdiction**

Both the Parties agree that this Pact is subject to Indian Law. The place of performance and hence this Pact shall be subject to the Jurisdiction in the State of Kerala.

**Clause.11. Other legal Actions**

The actions stipulated in the Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

**Clause.12. Validity and Duration of the Agreement**

This Pact begins when both parties have legally signed it. This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 3 years after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Chairman and Managing Director/ CEO of HITES.

**Clause.13. Other provisions**

- 13.1 Changes and supplements as well as termination notices need to be made in writing. Both the Parties declare that no side agreements have been made to this Integrity Pact.
- 13.2 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 13.3 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

IN WITNESS THEREOF the parties have signed and executed this pact at the place and date first above mentioned in the presents of following witnesses:

**HLL Infra Tech Services Ltd.**

**Bidder**

.....

.....

WITNESS:

WITNESS:

1. ....  
(signature, name and address)
2. ....  
(signature, name and address)

1. ....  
(signature, name and address)
2. ....  
(signature, name and address)

### **General Rules and Directions**

1. All work proposed for execution by contract will be notified in a form of invitation to tender pasted by publication in Newspapers or posted on website as the case may be. This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit and Performance guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.
2. In the event of the tender being submitted by a firm, it must be digitally signed/ signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.
3. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.
4. The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.

In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, then such lowest contractors may be asked to submit sealed revised offer quoting rate of each item of the schedule of quantity for all sub sections/sub heads as the case may be, but the revised quoted rate of each item of schedule of quantity for all sub sections/sub heads should not be higher than their respective original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer.

If the revised tendered amount (worked out on the basis of quoted rate of individual items) of two or more contractors received in revised offer is again found to be equal, then the lowest tender, among such contractors, shall be decided by draw of lots in the presence of officer nominated by HITES and the lowest contractors those have quoted equal amount of their tenders.

In case of any such lowest contractor in his revised offer quotes rate of any item more than their respective original rate quoted already at the time of submission of tender, then such revised offer shall be treated invalid. Such case of revised offer of the lowest contractor or case of refusal to submit revised offer by the lowest contractor shall be treated as withdrawal of his tender before acceptance and shall not be allowed to participate in the retendering process of the work. Such bidders shall be suspended for one year and shall not be eligible to bid for tenders invited by HITES from date of issue of suspension order for one year.

In case all the lowest contractors those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised offers, then tenders are to be recalled. In this case, that bidder shall not be allowed to participate in the retendering process of the work. The bidder shall be suspended for one year and shall not be eligible to bid for tenders invited by HITES from date of issue of suspension order for one year.

Contractor, who refuse to submit revised offers because of non-submission of revised offer, or quoting higher revised rate(s) of any item(s) than their respective original rate quoted already at the time of submission of

his bid shall not be allowed to participate in the retendering process of the work. The bidder shall be suspended for one year and shall not be eligible to bid for tenders invited by HITES from date of issue of suspension order for one year.

5. The officer inviting tender or his duly authorized assistant, will open tenders in the presence of any intending contractors who may be present at the time.
6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.
7. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgment or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier
8. In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. In event no rate has been quoted for an item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly. However, if a tenderer quotes nil rates against each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer and earnest money deposited shall be forfeited.
9. All rates shall be quoted in the price bid format available in e-tendering portal.
10.
  - (i) The Contractor whose tender is accepted will be required to furnish performance guarantee of **3% (three Percent) of the tendered amount** within the period specified in Schedule F. At least 50% of this guarantee shall be in form of Treasury Fixed Deposit (Govt. of Kerala) and rest in form of BG from any scheduled commercial bank based in India in accordance with the prescribed form.
  - (ii) The contractor whose tender is accepted will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to **3% of the tendered value of the work**. The Security deposit will be collected by deductions from the running bills of the contractor at the rates mentioned above. The Security amount will also be accepted in cash or in the shape of Government Securities. Fixed Deposit Receipt of a Scheduled Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed.
11. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-Charge.
12. GST or any other applicable in respect of inputs procured by the contractor for this contract shall be payable by the Contactor and the Client will not entertain any claim whatsoever in respect of the same. However, component of GST at the time of supply of service (as provided in CGST act 2017) provided by the contract shall be varied if different from that applicable on the last date of receipt of tender including extensions if any.
13. The contractor shall give a list of both Executive/Non Executive employees of client related to him.
14. The tender for composite work includes, in addition to building work, all other works such as sanitary and water supply installations drainage installation, electrical work etc. The tenderer must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical works in the composite tender.

## SECTION - 1

### CONDITIONS OF CONTRACT

#### Definition:

1. The Contract means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority as indicated in Schedule 'F' on behalf of the Client and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-charge of the Consultant appointed by the Client and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another
2. In the contract the following expressions shall, unless the context otherwise requires, have the meanings, thereby respectively assigned to them:-
  - i) The expressions **works or work** shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional. The **work(s)** shall also mean the work including survey, investigation, design, both permanent and temporary, or services to be carried out, designed, constructed, manufactured, fabricated, delivered to Site, erected, installed, completed, tested, commissioned, (including Integrated Testing and Commissioning) and remedying of any defects, and/ or supplied in accordance with the Contract and include Plant, Goods and Materials and their accessories and other necessary items/activities to complete the project/work.
  - ii) **Accepting Authority** shall mean the authority nominated by HITES or as mentioned in Schedule F.
  - iii) The **Contractor** shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
  - iv) **"Client/ Owner"** shall mean Institute of Advanced Virology (IAV), an autonomous Institution under Science & Technology Department, Govt. of Kerala.
  - v) **"HITES"** shall mean HLL Infra Tech Services Ltd. (HITES), (100% Subsidiary of HLL Lifecare Ltd., A Government of India Enterprise) appointed as 'Project Management Consultant' by the Client for this project.
  - vi) **"Engineer in Charge"** (EIC) means the Engineer Officer as mentioned in the schedule "F" hereunder, as authorized by HITES / Client.
  - vii) **Expected risk(s) are** risks due to riots (other than those on account of the contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any act of Client, damage from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Client of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Client's faulty design of work.
  - viii) **Specifications** means the specifications followed in the area where the work is to be executed.
  - ix) **Market rate** shall be the rate as decided by Engineer-in-charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule F to cover, all overheads and profits, provided that no extra overheads and profits shall be payable on the part(s) of work assigned to other agency(s) by the contractor as per terms of contract.
  - x) **Schedule(s)** referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the Government mentioned in Schedule "F" hereunder, with the amendments thereto issued upto the date of receipt of the tender.
  - xi) The **"Site"** shall mean the land/ or place on, into or through which work is to be executed or any



adjacent land, path or street which may be located or used for the purpose of carrying out the contract.

- xii) **“Tendered Value”/ “Contract Price”** means the value of the entire work as stipulated in the letter of award.
- xiii) **GST** shall mean Goods and Service Tax.
- xiv) **Date of commencement of work:** The date of commencement of work shall be the date of start as specified in schedule 'F'

### **Scope and performance**

- 3. Where the context so requires, words imparting the singular only also include the plural or vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa
- 4. Heading and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
- 5. The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, Schedule of rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.

### **Works to be carried out**

- 6. The work to be carried out under the contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The description given in the Schedule of Quantities shall, unless otherwise stated, be held to include wastage of materials, cartage and carriage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labour necessary in and for the full entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.

### **Sufficiency of tender**

- 7. The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and price quoted in the Schedule of Quantities, which rates and price shall, except as otherwise provided, cover all his obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works.

### **Discrepancies and Adjustment of errors**

- 8. The several documents forming the contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawings and figured dimensions in preference to scale and specific conditions in preference to general conditions.
  - i. In the case of discrepancy between the various documents, the following order of preference shall be observed: –
    - a) Description of Schedule of Quantities
    - b) SCC
    - b) GCC, NIT, ITB
    - c) Tender Drawings
    - d) CPWD Specifications including up-to-date correction slips
    - e) Technical Specification
    - f) Indian Standard Specifications of B.I.S.

- g) For items not covered by any of the above, the work shall be done, as per sound engineering practices and as directed by the Engineer-in-charge.
- ii. If there are varying or conflicting provisions made in any one document forming Part of the contract, Accepting Authority shall be deciding authority with regard to the intention of the document and his decision shall be final and binding on the Contractor.
- Any error in description, quantity or rate in schedule of quantities or any omission therefrom shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligation under the contract.

### **Signing of Contract**

9. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
- (i) The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
  - (ii) Standard Form as mentioned in Schedule 'F' consisting of:
    - (a) Various standard clauses with corrections up to the date stipulated in Schedule 'F' along with annexures thereto.
    - (b) Safety Code.
    - (c) Model Rules for the protection of health, sanitary arrangements for workers employed by HITES or its Contractors.
    - (d) CPWD Contractor's Labour Regulations.
    - (e) List of Acts and omissions for which fines can be imposed.
  - (iii) No payment for the work done will be made unless PBG is submitted and the contract is signed by the contractor.

**SECTION - 2**  
**CLAUSES OF CONTRACT**

**CLAUSE 1      PERFORMANCE GUARANTEE**

- (i) The contractor shall submit an irrevocable Performance Guarantee of 3% (Three percent) of the tendered value in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule F from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in- Charge up to a maximum period as specified in schedule F on written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge. Atleast 50% of this guarantee shall be in form of Treasury Fixed Deposit (Govt. of Kerala) and rest in form of BG from any scheduled commercial bank based in India or the State Bank of India in accordance with the form annexed hereto.
- (ii) The Performance Guarantee shall be initially valid up to the stipulated date of completion plus sixty days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest. The Bank Guarantee shall be kept alive till the completion or extended period whichever is later and expenses of renewal thereof are the responsibility of the contractor.
- (iii) The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the HITES/ Client is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
- (a) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.
- (b) Failure by the contractor to pay the HITES/ Client any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
- (iv) In the event of the Contract being determined or rescinded under provision of any of the Clause /Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the HITES/ Client .
- (v) On substantial Completion of any work which has been completed to such an extent that the intended purpose of the work is met and ready to use, then a provisional Completion certificate shall be recorded by the Engineer-in-Charge. The provisional certificate shall have appended with a list of outstanding balance item of work that need to be completed in accordance with the provisions of the contract.

This provisional completion certificate shall be recorded by the concerned Engineer- in- charge. After recording of the provisional Completion Certificate for the work by the competent authority, the 80% of performance guarantee shall be returned to the contractor, without any interest.

**CLAUSE 1 A      RECOVERY OF SECURITY DEPOSIT**

The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit HITES/ Client at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 3% of the gross amount of each running and final bill till the sum deducted will amount to security deposit of 3 % of the tendered value of the work. Such deductions will be made and held by HITES by way of Security Deposit unless he/ they has/have deposited the amount of Security at the rate mentioned above in cash or in the form of Government Securities or fixed deposit receipts. In case a fixed deposit receipt of any Bank is furnished by the contractor to the HITES as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the HITES to make good the deficit.

All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising therefrom, or from any sums which may be due to or may become due to the contractor by HITES on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks or Government Securities (if deposited for more than 12 months) endorsed in favour of the Engineer-in-Charge, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills of the contractor at the rates mentioned above.

The Security Deposit as deducted above can be released against bank guarantee issued by a scheduled bank, on its accumulations to a minimum of Rs.5 lakh subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 lakh. Provided further that the validity of bank guarantee including the one given against the earnest money shall be in conformity with provisions contained in Clause 17 which shall be extended from time to time depending upon extension of contract granted under provisions of Clause 2 and Clause 5.

Note-1: Government papers tendered as security will be taken at 3% (Three per cent) below its market price or at its face value, whichever is less. The market price of Government paper would be ascertained by the Engineer-in-Charge at the time of collection of interest and the amount of interest to the extent of deficiency in value of the Government paper will be withheld if necessary.

Note-2: Government Securities will include all forms of Securities mentioned in Rule No. 274 of the G.F. Rules except fidelity bond. This will be subject to the observance of the condition mentioned under the rule against each form of security.

Note-3: Note 1 & 2 above shall be applicable for both clause 1 and 1A.

## **CLAUSE 2 COMPENSATION FOR DELAY**

If the contractor fails to maintain the required progress in terms of clause 5 or to complete the work and clear the site on or before the contract or justified extended date of completion as per clause 5 (excluding any extension under Clause 5.5) as well as any extension granted under clauses 12 and 15, he shall, without prejudice to any other right or remedy available under the law to the HITES on account of such breach, pay as compensation the amount calculated at the rates stipulated below as the authority specified in schedule F may decide on the amount of tendered value of the work for every completed day/ month (as determined) that the progress remains below that specified in Clause 5 or that the work remains incomplete.

- |                                    |  |
|------------------------------------|--|
| (i) Compensation for delay of work | With maximum rate @ 1% (one percent) per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of Contractor. |
|------------------------------------|--|

Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% of the Tendered Value of work or of the Tendered Value of the sectional part of the work as mentioned in schedule F for which a separate period of completion is originally given.

In case no compensation has been decided by the authority in Schedule "F" during the progress of work, this shall be no waiver of right to levy compensation by the said authority if the work remains incomplete on final justified extended date of completion. If the Engineer in Charge decides to give further extension of time allowing performance of work beyond the justified extended date, the contractor shall be liable to pay compensation for such extended period. If any variation in amount of contract takes place during such extended period beyond justified extended date and the contractor becomes entitled to additional time under clause 12, the net period for such variation shall be accounted for while deciding the period for levy of compensation. However, during such further extended period beyond the justified extended period, if any delay occurs by events under sub clause 5.2, the contractor shall be liable to pay compensation for such delay.

Provided that compensation during the progress of work before the justified extended date of completion for delay under this clause shall be for non-achievement of sectional completion or part handing over of work on

stipulated/justified extended date for such part work or if delay affects any other works/services. This is without prejudice to right of action by the Engineer in Charge under clause 3 for delay in performance and claim of compensation under that clause.

In case action under clause 2 has not been finalized and the work has been determined under clause 3, the right of action under this clause shall remain post determination of contract but levy of compensation shall be for days the progress is behind the schedule on date of determination, as assessed by the authority in Schedule F, after due consideration of justified extension. The compensation for delay, if not decided before the determination of contract, shall be decided after of determination of contract.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the HITES/Client. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied as above. With-holding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

### **CLAUSE 3 WHEN CONTRACT CAN BE DETERMINED**

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

- (i) If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
- (ii) If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.
- (iii) If the contractor fails to complete the work or section of work with individual date of completion on or before the stipulated or justified extended date, on or before such date of completion; and the Engineer in Charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer-in-Charge the contractor will be unable to complete the same or does not complete the same within the period specified.
- (iv) If the contractor persistently neglects to carry out his obligations under the contract and/or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.
- (v) If the contractor shall offer or give or agree to give to any person in HITES/ Client or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for HITES.
- (vi) If the contractor shall enter into a contract with HITES in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.
- (vii) If the contractor shall obtain a contract with HITES as a result of wrong tendering or other non-

bonafide methods of competitive tendering or commits breach of integrity pact.

- (viii) If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.
- (ix) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- (x) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
- (xi) If the contractor assigns (excluding part(s) of work assigned to other agency(s) by the contractor as per terms of contract), transfers, sublets (engagement of labour on a piece- work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer -in-Charge. When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the HITES shall have powers:
  - (a) To determine the contract as aforesaid so far as performance of work by the Contractor is concerned (of which determination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, Security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the HITES/Client.
  - (b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work. In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

### **CLAUSE 3A**

In case, the work cannot be started due to reasons not within the control of the contractor within 1/8th of the stipulated time for completion of work or one month whichever is more, either party may close the contract by giving notice to the other party stating the reasons. In such eventuality, the Performance Guarantee of the contractor shall be refunded within the following time limits:

- (i) If the tendered value of work is upto Rs. 1Crore : 21days
- (ii) If the tendered value of work is more than Rs.1Crore and upto Rs.10 Crore : 30days
- (iii) If the tendered value of work exceeds Rs.10 Crore : 45days

Neither party shall claim any compensation for such eventuality. This clause is not applicable for any breach of the contract by either party.

**CLAUSE 4 CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION NOT TAKEN UNDER  
CLAUSE 3**

In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the power vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

**CLAUSE 5 TIME AND EXTENSION FOR DELAY**

The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the work shall commence from such time period as mentioned in schedule 'F'. If the Contractor commits default in commencing the execution of the work as aforesaid, the performance guarantee shall be forfeited by the Engineer in Charge and shall be absolutely at the disposal of the HITES without prejudice to any other right or remedy available in law.

5.1 As soon as possible but within fifteen days of award of work and in consideration of

a) Issue of LOA

- i. The Contractor shall submit a Time and Progress Chart for each mile stone. The Engineer-in-Charge may within 15 days thereafter, if required modify, and communicate the program approved to the contractor failing which the program submitted by the contractor shall be deemed to be approved by the Engineer-in-Charge. The work programme shall include all details of balance drawings and decisions required to complete the contract with specific dates by which these details are required by contractor without causing any delay in execution of the work. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-charge and the Contractor within the limitations of time imposed in the Contract documents.
- ii. In case of non-submission of construction programme by the contractor the program approved by the Engineer-in-Charge shall be deemed to be final.
- iii. The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract.
- iv. The contractor shall submit the Time and Progress Chart and progress report using the mutually agreed software or in other format decided by Engineer-in-Charge for the work done during previous month to the Engineer-in-charge on or before 5th day of each month failing which a recovery of Rs.5000/- shall be made on per week or part basis in case of delay in submission of the monthly progress report.

5.2 If the work(s) be delayed by:-

- i. force majeure, or

- ii. abnormally bad weather, or
- iii. serious loss or damage by fire, or
- iv. civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- v. delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
- vi. any other cause like above which, in the reasoned opinion of the Engineer-in-Charge is beyond the Contractor's control.

then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge for entry in the physical hindrance register but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed in sub clause 5.2.

- 5.3 In case the work is hindered, by the Department or for any reason / event, for which the HITES/Client is responsible, the authority as indicated in Schedule 'F' shall, if justified, give a fair and reasonable extension of time and reschedule the mile stones for completion of work Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in law; provided further that for concurrent delays under this sub clause and sub clause 5.2 to the extent the delay is covered under sub clause 5.2 the contractor shall be entitled to only extension of time and no damages.
- 5.4 Request for rescheduling of Mile stones or extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed forms i.e. Form of application by the contractor for seeking rescheduling of milestones or Form of application by the contractor for seeking extension of time (Appendix-XVI) respectively to the authority as indicated in Schedule F. The Contractor shall indicate in such a request the period by which rescheduling of milestone/s or extension of time is desired. With every request for rescheduling of milestones, or if at any time the actual progress of work falls behind the approved programme by more than 10% of the stipulated period of completion of contract, the contractor shall produce a revised programme along with all required designs, drawings and documents pending and are to be made available by the contractor without causing any delay in execution of the work. It shall also include decisions required from HITES to complete the contract. A recovery @ Rs. 5,000/- per day shall be made on per day basis in case of delay in submission of the revised programme.
- 5.4.1 In any such case the authority as indicated in Schedule F may give a fair and reasonable extension of time for completion of work or reschedule the mile stones. Engineer-in-Charge shall finalize/ reschedule a particular mile stone before taking an action against subsequent mile stone. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority as indicated in Schedule F in writing, within 30 days of the date of receipt of such request from the Contractor in prescribed form. In event of non-application by the contractor for extension of time Engineer-in-Charge after affording opportunity to the contractor may give, supported with a programme (as specified under 5.4 above), a fair and reasonable extension within a reasonable period of occurrence of the event.
- 5.5 In case the work is delayed by any reasons, in the opinion of the Engineer-in-Charge, by the contractor for reasons beyond the events mentioned in clause 5.2 or clause 5.3 or clause 5.4 and beyond the justified extended date; without prejudice to right to take action under Clause 3, the Engineer-in-Charge may grant extension of time required for completion of work without rescheduling of milestones. The contractor shall be liable for levy of compensation for delay for such extension of time.



**CLAUSE 6****COMPUTERIZED MEASUREMENT BOOK**

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements as per the stage payments having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/ test checked from the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the department a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department/HITES. Thereafter, the MB shall be taken in the Engineer-in-charge's Office records, and allotted a number as per the Register of Computerised MBs. This should be done before the corresponding bill is submitted to the Regional Office for payment. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the HITES/Client.

The contractor shall also submit to the HITES/Client separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the bill. Thereafter, this bill will be processed by the Regional Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in-Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

**Measurement of works:** The contractor has to maintain computerised measurement book as above. However, all measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance and will be maintained by the Engineer-in-Charge.

#### **CLAUSE 7 PAYMENT ON INTERMEDIATE CERTIFICATE TO BE REGARDED AS ADVANCES**

No payment shall be made for work, estimated to cost Rs. Twenty lac or less till after the whole of the work shall have been completed and certificate of completion given. For works estimated to cost over Rs. Twenty lac, the interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Department in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by Institute of Advanced Virology (IAV) directly to the contractor's account certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible shall be paid by 35th working day by the IAV after of submission of certified bills by HITES to IAV together with the account of the material issued by the department, or dismantled materials, if any. In the case of works outside the headquarters of Engineer in Charge, the period of thirty five working days will be extended to forty working days. However, HITES will not be accountable for the delay in payment by the Client.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the HITES/ CLIENT to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.

The Engineer-in-Charge in his sole discretion to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill to be submitted by the contractor within 10 days of the interim payment. In case of delay in submission of bill by the contractor a simple interest @ 10% per annum shall be paid to the HITES/Client from the date of expiry of prescribed time limit which will be compounded on yearly basis.

In case main contractor fails to make the payment to his subcontractor associated by him within 15 days of receipt of each running account payment, then on the written complaint of subcontractor associated for such component, Engineer in charge shall serve the show cause to the main contractor and if reply of main contractor either not received or found unsatisfactory and payment will be released directly to the subcontractor, if approved by client, associated for such component as per the terms and conditions of the agreement drawn between main contractor and associate contractor fixed by him. Such payment if any made to the associate contractor shall be recovered by Engineer-in-charge from the next RA/ final bill due to main contractor as the case may be.

#### **CLAUSE 7A**

No running account bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable, are submitted by the contractor to the Engineer-in-charge.

The Contractor shall also ensure the compliance of EPF & MP Act, 1952 by the sub-contractors, if any, engaged by contractor for above said work.

The contractor shall submit affidavit to indemnify and save harmless the Client / HITES and against all actions, suits, proceedings, losses, costs, damages, charges, claims and demands of every nature and description brought or recovered against the HITES by reasons of any act or omission of the Contractor, his agents or employees in connection with complying the provisions of the Employees Provident Fund & Miscellaneous Provisions Act, 1952 as amended from time to time. All sums payable by way of compensation/ penalty/ damages/ interest on the outstanding amounts payable by the contractor shall be considered as reasonable and be payable by the contractor to the HITES immediately and if the contractor does not pay the amount immediately the same will be deducted from security deposit or earnest money or any other amount available with the HITES or any money payable to the Contractor by the HITES.

Contractor should submit a Compliance Certificate as per the proforma (Appendix-XX) mentioned in every bill as per the provisions of the EPF and ESI Act as amended from time to time.

#### **CLAUSE 8 COMPLETION CERTIFICATE AND COMPLETION PLANS**

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

#### **CLAUSE 8A COMPLETION DOCUMENTS TO BE SUBMITTED BY THE CONTRACTOR**

The contractor shall submit completion plans for the entire scope of work within thirty days of the completion of the work, provided that the service plans having been issued for execution by the Engineer-in-Charge, unless the contractor, by virtue of any other provision in the contract, is required to prepare such plans.

In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay a sum equivalent to 0.1% of the tendered value of the work or as may be fixed by the Engineer-in-charge concerned and in this respect the decision of the Engineer-in-charge shall be final and binding on the contractor.

**CLAUSE 9****PAYMENT OF FINAL BILL**

The final bill shall be submitted by the contractor, along with all supporting documents and as per Specific Conditions of Contract in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made by the IAV based on recommendation of HITES E-I-C within the period specified here-in-under, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized Engineer, complete with account of dismantled materials.

- (i) If the tendered value of work is upto Rs.45 lakh : 2 Months
- (ii) If the tendered value of work is more than Rs. 45 lakh and upto Rs 2.50 Cr : 3 months
- (iii) If the tendered value of work exceeds Rs. 2.50 Cr : 6 months

**CLAUSE 9A****PAYMENT OF CONTRACTOR'S BILLS TO BANKS**

Payments due to the contractor will be made by the IAV through direct payment transfer mechanism to the designated account of the contractor with bank / treasury / registered financial / co-operative or thrift societies / recognized financial institutions. Required documents for direct bank transfer shall be submitted by the Contractor to the Engineer-In-Charge / Client as per requirement.

**CLAUSE 10A****MATERIALS TO BE PROVIDED BY THE 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 Client.

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.

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.

The contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in schedule F.

**CLAUSE 10B**

**(i) SECURED ADVANCE ON NON-PERISHABLE MATERIAL- NOT APPLICABLE**

**(ii) MOBILISATION ADVANCE- NOT APPLICABLE**

**(iii) PLANT MACHINERY & SHUTTERING MATERIAL ADVANCE – NOT APPLICABLE**

**CLAUSE 10C PAYMENT ON ACCOUNT OF INCREASE IN PRICES/WAGES DUE TO STATUTORY ORDER(S)-**

**NOT APPLICABLE**

**CLAUSE 10 CA PAYMENT DUE TO VARIATION IN PRICES OF MATERIALS AFTER RECEIPT OF TENDER**

**NOT APPLICABLE**

**CLAUSE 10 CC PAYMENT DUE TO INCREASE/DECREASE IN PRICES/ WAGES (EXCLUDING MATERIALS COVERED UNDER CLAUSE 10 (CA) AFTER RECEIPT OF TENDER FOR WORKS)**

**NOT APPLICABLE**

**CLAUSE 10 D DISMANTLED MATERIAL GOVT. PROPERTY**

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as Client's property and such materials shall be disposed off to the best advantage of Client according to the instructions in writing issued by the Engineer-in-Charge.

**CLAUSE 11 WORK TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, ORDERS ETC.**

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instruction.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

**CLAUSE 12 DEVIATIONS/ VARIATIONS EXTENT AND PRICING**

The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

**12.1** The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor, as follows:

- (i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus
- (ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

## **12.2 Deviation, Extra Items and Pricing:**

In the case of extra item(s) **(items which are not available in the contract)**, the contractor may within fifteen days of receipt of order or occurrence of the item(s), submit claim for market rates (s), supported with proper analysis of rates and manufacturer's specification for the work, invoices, vouchers, etc (as applicable), failing which the rate(s) approved later by the Engineer in charge shall be final and binding. Where the contractor submits claim for market rates(s) in the manner prescribed above, the Engineer-in-Charge shall, within 45 days of the receipt of claims, after giving consideration to the analysis of rates and other documents submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined. **The rates (s) of extra items so determined by the Engineer-in-charge shall be final and binding on the contractor, and shall not be arbitrable. For prevailing market rates, if the rates are available in PWD local market rates, the same is to be considered.**

### **Deviation, Deviated Quantities & Pricing:**

In the case of contract items which exceed the limit laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates. The Engineer-in-Charge shall within 45 days of receipt of the claims, shall determine the rates for excess quantities i.e. quantities in excess of 25% over agreement scheduled quantity, the admissible rates shall be limited to Technical Sanctioned estimate rate modified by overall tender excess / tender deficit, as the case may be, subject to a maximum of PWD local market rates prevailing at the time of ordering. **The rates (s) so determined by the Engineer-in-charge shall be final and binding on the contractor, and shall not be arbitrable.**

**12.3** In case of contract items which exceed the limit laid down in schedule F, the Engineer-in-Charge shall after giving notice to the contractor within 30 days of submission of that bill by the contractor which contains such item(s), and after taking into consideration any reply received from the contractor within 15 days of the issue of such notice, reduce the rate for quantity in excess of the above mentioned limiton , within 30 days of the expiry of the said period of 15 days, and the contractor shall be paid in accordance with the rates so determined. The rates (s) so determined by the Engineer-in-charge shall be final and binding on the contractor, and shall not be arbitrable

**12.4** The cost of any operation necessarily in contemplation of tenderer while quoting tender or necessary or incidental to proper execution of an item of work included in the Schedule of quantities or in the schedule of rates mentioned in schedule F, whether or not specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.

## **CLAUSE 13 FORECLOSURE OF CONTRACT DUE TO ABANDONMENT OR REDUCTION IN SCOPE OF WORK**

If at any time after acceptance of the tender or during the progress of work, the purpose or object for which the

work is being done changes due to any supervening cause and as a result of which the work has to be abandoned or reduced in scope, HITES 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 stating the decision as well as the cause for such decision 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.

The contractor shall be paid at contract rates, full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure;

- (i) 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.
- (ii) HITES shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however HITES shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by HITES, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.
- (iii) Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.
- (iv) Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary.

The contractor shall, if required by the Engineer-in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iii) and (iv) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the HITES as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the HITES from the contractor under the terms of the contract.

In the event of action being taken under Clause 13 to reduce the scope of work, the contractor may furnish fresh Performance Guarantee on the same conditions, in the same manner and at the same rate for the balance tendered amount and initially valid up to the extended date of completion or stipulated date of completion if no extension has been granted plus minimum 60 days beyond that. Wherever such a fresh Performance Guarantee is furnished by the contractor the Engineer-in-Charge may return the previous Performance Guarantee.

#### **CLAUSE 14 CARRYING OUT PART WORK AT RISK & COST OF CONTRACTOR**

If contractor:

- (i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or
- (ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given

in that behalf by the Engineer-in-Charge; or

Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge.

- (iii) The Engineer-in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to HITES, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:
  - (a) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or
  - (b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by Government /HITES because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor.

The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by HITES/Client in completing the part work/ part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by HITES/Client as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to HITES/Client in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

#### **CLAUSE 15 SUSPENSION OF WORK**

- (i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:
  - (a) on account of any default on the part of the contractor or;
  - (b) for proper execution of the works or part thereof for reasons other than the default of the contractor; or
  - (c) for safety of the works or part thereof.



The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer- in- Charge.

- (ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:
  - (a) the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
  - (b) If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.
- (iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in sub-para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer- in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by HITES or where it affects whole of the works, as an abandonment of the works by HITES, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by HITES, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

## **CLAUSE 16**

### **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-in-charge, his authorized subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the HITES / Client or any organization engaged by the HITES / Client 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 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 Officer in charge of Quality Assurance or his subordinate officers or the officers of the organization engaged by the Department 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 under clause 2 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 schedule "F" 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.

**CLAUSE 17 CONTRACTORS LIABLE FOR DAMAGES, DEFECTS DURING MAINTENANCE PERIOD / DEFECT LIABILITY PERIOD**

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work during the Defect Liability Period (DLP) after a certificate final or otherwise of its completion or handing over shall have been given by the Engineer-in-Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of Defect Liability Period (DLP) after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later.

In case of Maintenance and Operation works of E&M services, the security deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract whichever is earlier.

**CLAUSE 18 CONTRACTOR TO SUPPLY TOOLS & PLANTS ETC.**

The contractor shall provide at his own cost all materials, tools & plants as specified in schedule F. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

**CLAUSE 18A RECOVERY OF COMPENSATION PAID TO WORKMEN**

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, HITES/Client is obliged to pay compensation to a workman employed by the contractor, in execution of the works, HITES/Client will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the HITES/Client under sub-section (2) of Section 12, of the said Act, HITES/Client shall be at liberty to recover such amount or any part thereof by deducting it from the security

deposit or from any sum due by HITES/Client to the contractor whether under this contract or otherwise. HITES/Client shall not be bound to contest any claim made against it under sub-section (1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to HITES/Client full security for all costs for which HITES/Client might become liable in consequence of contesting such claim.

**CLAUSE 18B                      ENSURING PAYMENT AND AMENITIES TO WORKERS IF CONTRACTOR FAILS**

In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, HITES/Client is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the Contractor's Labour Regulations, or under the Rules framed by Government / HITES /Client from time to time for the protection of health and sanitary arrangements for workers employed by Contractors, HITES/Client will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the HITES under sub-section(2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, HITES shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by HITES/Client to the contractor whether under this contract or otherwise HITES/Client shall not be bound to contest any claim made against it under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the HITES/Client full security for all costs for which HITES might become liable in contesting such claim.

**CLAUSE 19                              LABOUR LAWS TO BE COMPLIED BY THE CONTRACTOR**

The contractor shall comply with the provision of the Contract Labour (Regulation & Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971. The Contractor shall obtain a valid license under the said Act before the commencement of the work, and continue to have a valid license until its completion.

The contractor shall also comply with provisions of the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979.

The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

**CLAUSE 19A**

No labour below the age of fourteen years shall be employed on the work.

**CLAUSE 19 B                              PAYMENT OF WAGES**

Payment of wages:

- (i) The contractor shall pay to labour employed by him either directly or through sub- contractors, wages not less than fair wages as defined in the CPWD Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- (ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.
- (iii) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Central Public

Works Department contractor's Labour Regulations made by Government from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorisedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

- (iv) (a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.
- (b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.

In the case of Union Territory of Delhi, however, as the all-inclusive minimum daily wages fixed under Notification of the Delhi Administration No. F.12(162)MWO / DAB/43884- 91, dated 31-12-1979 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise.

- (v) The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made thereunder from time to time.
- (vi) The contractor shall indemnify and keep indemnified HITES against payments to be made under and for the observance of the laws aforesaid and the CPWD Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.
- (vii) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.
- (viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.
- (ix) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

#### **CLAUSE 19C**

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition, the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

#### **CLAUSE 19 D**

The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-

- (1) the number of labourers employed by him on the work,
- (2) their working hours,
- (3) the wages paid to them,
- (4) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
- (5) the number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them.

Failing which the contractor shall be liable to pay to HITES, a sum not exceeding Rs.200/- for each default or materially incorrect statement. The decision of the Engineer in charge shall be final in deducting from any bill due to the contractor; the amount levied as fine and be binding on the contractor.

#### **CLAUSE 19E**

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by HITES from time to time for the protection of health and sanitary arrangements for workers employed by the HITES and its contractors.

#### **CLAUSE 19 F**

Leave and pay during leave shall be regulated as follows:-

1. Leave :
  - (i) in the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,
  - (ii) in the case of miscarriage - upto 3 weeks from the date of miscarriage.
2. Pay :
  - (i) in the case of delivery - leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.
  - (ii) in the case of miscarriage - leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.
3. Conditions for the grant of Maternity Leave:

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.
4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in Appendix -I and II, and the same shall be kept at the place of work.

#### **CLAUSE 19 G**

In the event of the contractor(s) committing a default or breach of any of the provisions of the Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the HITES a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s)

defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the CPWD Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R& A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and/observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodeled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

#### **CLAUSE 19H**

The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.

- (i)
  - (a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30 sq.ft.) for each member of the worker's family staying with the labourer.
  - (b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6'x5') adjacent to the hut for each family.
  - (c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
  - (d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
- (ii)
  - (a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobi on both sides. The floor may be kutcha but plastered with mud gobi and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water-tight.
  - (b) The contractor(s) shall provide each hut with proper ventilation.
  - (c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.
  - (d) There shall be kept an open space of at least 7.2m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed.

- (iii) Water Supply - The contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The contractor(s) shall also at his/ their own cost make arrangements for laying pipe lines for water supply to his/ their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.
- (iv) The site selected for the camp shall be high ground, removed from jungle.
- (v) Disposal of Excreta - The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/authority. The contractor shall provide one sweeper for every eight seats in case of dry system.
- (vi) Drainage - The contractor(s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.
- (vii) The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.
- (viii) Sanitation - The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

#### **CLAUSE 19I**

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance/repair or renovation works etc. where the labour have an easy access to the individual houses, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. The Engineer-in-Charge will display a list of contractors working in the colony/Blocks on the notice board in the colony and also at the service centre, to apprise the residents about the same.

#### **CLAUSE 19J**

It shall be the responsibility of the contractor to see that the building under construction is not occupied by anybody unauthorisedly during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy upto 5% of tendered value of work may be imposed by the Engineer-in-Charge whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.

However, the Engineer-in-charge, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

#### **CLAUSE 19K EMPLOYMENT OF SKILLED/SEMI SKILLED WORKERS**

The contractor shall, at all stages of work, deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute/ Industrial Training Institute/National Institute of construction Management and Research (NICMAR)/ National Academy of Construction, CIDC, National Skill Development Corporation certified training institute or any similar reputed and recognized Institute

managed/ certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer in charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer- in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer in Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause, shall not be applicable for works with estimated cost put to tender being less than Rs. 10 crores.

For work costing more than Rs. 10 Crores, and upto Rs. 50 Crores, the contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 20% of the unskilled workers engaged in the project in co-ordination with the CPWD Regional Training Institute & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi skilled tradesmen.

For works costing more than Rs. 50 Crores, the contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 30% of the unskilled worker engaged in the project in co-ordination with the CPWD Regional Training Institute & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi skilled tradesmen. The cost of such training as stated above shall be born by the Government. The necessary space and workers shall be provided by the contractor and no claim what so ever shall be entertained.

#### **CLAUSE 19L**

The ESI and EPF contributions on the part of the Contractor / Client/ HITES in respect of this Contract shall be paid by the Contractor and nothing shall be reimbursed by the Client/ HITES.

#### **CLAUSE 20 MINIMUM WAGES ACT TO BE COMPLIED WITH**

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed thereunder and other labour laws affecting contract labour that may be brought into force from time to time.

#### **CLAUSE 21 WORK NOT TO BE SUBLET. ACTION IN CASE OF INSOLVENCY**

The contract shall not be assigned or sublet without the written approval of the Engineer-in - Charge. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of HITES in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the Client shall have power to adopt the course specified in Clause 3 hereof in the interest of HITES and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.

#### **CLAUSE 22**

Any amount payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of HITES without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

#### **CLAUSE 23 CHANGES IN FIRM'S CONSTITUTION TO BE INTIMATED**

Where the contractor is a partnership firm, the previous approval in writing of the Engineer- in- Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or



a Hindu undivided family business concern, such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

#### **CLAUSE 24 LIFE CYCLE COST**

The contractor shall be responsible for safety, quality and soundness of the work beyond maintenance period. The contractor shall have obligation to rectify such defects minimum up to 5 (five) years from the date of handing over of completed work. The defects have to be rectified within a reasonable time not exceeding forty five days after issue of notice by Engineer- in- Charge. If contractor does not take corrective action within 45 days, then action for debarring of the agency shall be taken by the appropriate authority.

#### **CLAUSE 25 SETTLEMENTS OF DISPUTES & ARBITRATION**

Except where otherwise provided in the contract, all disputes and claims relating to the meaning of the specifications, designs, drawings and instructions here-in-before mentioned and as to the quality of workmanship or materials used in the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the work or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned here-in-after.

**25.1 Conciliation:** If the contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawing, record or decision given in writing by the Engineer-in-Charge; or if the Engineer-in-Charge considers any act or decision of the contractor on any matter in connection with or arising out of the contract or carrying out of the work to be unacceptable and disputed; such party may promptly refer such disputes and amount claimed for each dispute to the Conciliator (VP (ID)-HITES South Operations) / Unit Chief (IDS)) in the Proforma prescribed in Appendix XVII mentioned in Schedule F, under intimation to the other party. The Conciliator may then request each party to submit to him a brief written statement describing the disputes and the points at issue. Each party shall send a copy of such statement to the other party. At any stage of the conciliation proceedings, the Conciliator may request a party to submit to him such additional information as he deems appropriate. When it appears to the Conciliator that there exist elements of a settlement which may be acceptable to the parties, he shall formulate the terms of a possible settlement and submit them to the parties for their observations. After receiving the observations of the parties, he may reformulate the terms of a possible settlement in the light of such observations. If the parties reach agreement on a settlement of the disputes, they may draw up and sign a written settlement agreement on non-judicial stamp paper as per Stamp Act. The Conciliator shall authenticate the settlement agreement and furnish a copy thereof to each party. The termination of conciliation proceedings shall be in accordance with Section 76 of The Arbitration and Conciliation Act, 1996. No party shall be represented before the said Conciliator by an advocate or legal counsel. The conciliation proceedings shall be completed within 45 days from the receipt of reference. This time may be enlarged by 15 days by the Conciliator. The conciliation proceedings shall be deemed to have been terminated at the end of 60 days from the receipt of reference.

It is a term of contract that each party invoking arbitration must exhaust the aforesaid mechanism of settlement of disputes prior to invoking arbitration.

**25.2 Arbitration:** If the aforesaid conciliation proceedings fail or the Conciliator fails to give proposal for settlement within the aforesaid period, either party may promptly give notice in the proforma prescribed in Appendix XVIII, under intimation to the other party, to the COO/CEO (HITES), hereinafter referred to as the Arbitrator Appointing Authority as indicated in Schedule F, for appointment of Arbitrator.

However, a party may seek appointment of Arbitrator without taking recourse to the process of conciliation mentioned in sub clause 25.1 above. In the event of either party giving a notice to the Arbitrator Appointing Authority for appointment of Arbitrator, the said Authority shall appoint Arbitrator as per the procedure given below and refer such disputes to arbitration.

(a) **Number of Arbitrators:** If the contract amount is less than Rs.100 crore, the disputes may be referred for adjudication by a sole Arbitrator. If the contract amount is Rs.100 crore or more, the disputes may be referred to an Arbitral Tribunal of three Arbitrators.

(b) **Qualification of Arbitrators:** It is a term of this contract that each member of the Arbitral Tribunal shall be Graduate Engineer with experience in execution of public works engineering contracts, and he should have worked earlier at a level not lower than the Chief Engineer (equivalent to level of Joint Secretary to the Government of India) or graduate engineer retired from any government service from a position not below the level of Joint Secretary to the Government of India or equivalent level from the CPSU's and having experience in the field of arbitration in construction contracts. The aforesaid educational qualification and work experience shall be mandatory for appointment as Arbitrator. The age of Arbitrator at the time of appointment shall not exceed 75 years. An Arbitrator may be appointed notwithstanding the total number of active arbitration cases with him.

**25.3 Appointment of Sole Arbitrator:** The COO/CEO HITES shall in such case appoint the sole arbitrator on receipt of such a request and refer such disputes to arbitration. In such cases, the party seeking arbitration has to submit as express agreement in writing as per Appendix XIX towards waiver of section 12(5) of Arbitration and Conciliation Act 1996 along with notice for appointment of arbitrator in the proforma prescribed in Appendix XVIII, under intimation to other party. The Arbitrator appointing authority shall within 30 days of receipt of the said notice, appoint the Arbitrator in the matter provided the other party also submits waiver of section 12(5), ibid in Appendix XIX within 7 days of the receipt of said notice.

Where any one of the parties does not submit the waiver agreement, the Arbitrator Appointing Authority shall propose three Arbitrators to the party seeking arbitration under intimation to other party within 15 days of receiving the notice. The party seeking arbitration shall give his choice for one of them within 15 days of receiving the list, and the Arbitrator Appointing Authority shall appoint the chosen person as Arbitrator within 15 days of receipt of notice.

It is a term of this agreement that if the parties fail to select, within the period prescribed above, an Arbitrator of their choice from the list forwarded to them, the Arbitrator shall select and appoint Arbitrator from the said list.

**25.4 Appointment of Arbitral Tribunal of three Arbitrators:** The COO/CEO shall in such a case appoint one of the three arbitrators, within 30 days from the receipt of such a request (on prescribed proforma) and refer such disputes to arbitration. The contractor shall appoint one arbitrator within 30 days of making request for arbitration or of receipt of request by the Engineer-In-Charge to the Chairman, HITES for appointment of Arbitral Tribunal, and two appointed arbitrators shall appoint third arbitrator, who shall act as the Presiding Arbitrator.

In event of

- a. A party fails to appoint the second arbitrator, or
- b. Two appointed arbitrators fail to appoint the Presiding Arbitrator, then

The COO/CEO, HLL Infra Tech Services Limited shall appoint the second or Presiding Arbitrator, as the case may be.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the COO/CEO, HITES. The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended or any statutory modifications or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

**25.5 Applicable Law:** The provisions of the Arbitration and Conciliation Act, 1996 (Act 26 of '1996) and any further statutory modification or re-enactment thereof shall be applicable. Further, the fast-track procedure for arbitration contained in Section 298 of the said Act shall apply.

**25.6 Fee payable to Arbitrator(s):** The fee payable to the arbitral tribunal shall be paid as per the rates specified in the Fourth Schedule of the Arbitration and Conciliation Act, 1996 as amended or as per guidelines issued by the competent authority. The fee shall be shared equally by both the parties.

**25.7 Place of Arbitration:** The place of arbitration shall preferably be as mentioned in Schedule F. However, the Arbitral Tribunal may decide the place in consultation with both the parties.

**25.8 Terms of reference:** The Arbitral Tribunal shall adjudicate on only such disputes as are referred to it by the

Arbitrator Appointing Authority and give separate award against each dispute referred to him and shall give reasons for the award in all cases where the total amount of the claim by any party exceeds Rs.1,00,000.

**25.9 Interest on Arbitration award:** It is also a term of this arbitration agreement that where the Arbitral award against any dispute is for the payment of money, no pre-suit and pendent-elite interest shall be payable on any part of the Arbitral award

#### **CLAUSE 26 CONTRACTORS(S) TO INDEMNIFY GOVT. AGAINST PATENT RIGHTS**

The contractor(s) shall fully indemnify and keep indemnified the HITES against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against HITES in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise therefrom, provided that the contractor shall not be liable to indemnify the HITES if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

#### **CLAUSE 27 LUMPSUM PROVISIONS IN TENDER**

When the estimate on which a tender is made includes lump sum in respect of parts of the work, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-Charge payable of measurement, the Engineer-in-Charge may at his discretion pay the lump-sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provisions of the clause.

#### **CLAUSE 28 ACTION WHERE NO SPECIFICATIONS ARE SPECIFIED**

In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then as per District Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

#### **CLAUSE 29 WITHHOLDING AND LIEN IN RESPECT OF SUM DUE FROM CONTRACTOR**

- (i) Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the Client shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the HITES/Client shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalisation or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the Client shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge of the HITES or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or HITES will be kept withheld or retained as such by the Engineer-in-Charge or HITES/Client till the claim arising out of or under the contract is determined by the arbitrator(if the contract is governed by the arbitration clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the HITES/Client shall be entitled to

withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

- (ii) CLIENT / HITES shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for CLIENT / HITES to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by CLIENT / HITES to the contractor, without any interest thereon whatsoever.

Provided that the CLIENT / HITES shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Engineer- in- charge on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Engineer- in- charge.

#### **CLAUSE 29A LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS**

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer- in-Charge or the HITES or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or HITES/Client or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer- in-Charge or the HITES or with such other person or persons.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the HITES/Client will be kept withheld or retained as such by the Engineer- in-Charge or the HITES/Client or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

#### **CLAUSE 29B EMPLOYMENT OF COAL MINING OR CONTROLLED AREA LABOUR NOT PERMISSIBLE**

The contractor shall not employ coal mining or controlled area labour falling under any category whatsoever on or in connection with the work or recruit labour from area within a radius of 32 km (20 miles) of the controlled area. Subject as above the contractor shall employ imported labour only i.e., deposit imported labour or labour imported by contractors from area, from which import is permitted.

Where ceiling price for imported labour has been fixed by State or Regional Labour Committees not more than that ceiling price shall be paid to the labour by the contractor.

The contractor shall immediately remove any labourer who maybe pointed out by the Engineer- in-Charge as being a coal mining or controlled area labourer. Failure to do so shall render the contractor liable to pay to Client a sum calculated at the rate of Rs.10/- per day per labourer. The certificate of the Engineer-in-Charge about the number of coal mining or controlled area labourer and the number of days for which they worked shall be final and binding upon all parties to this contract.

It is declared and agreed between the parties that the aforesaid stipulation in this clause is one in which the public are interested within the meaning of the exception in Section 74 of Indian Contract Act, 1872.

Explanation:- Controlled Area means the following areas:

Districts of Dhanbad, Hazaribagh, Jamtara - a Sub-Division under Santhal Pargana Commissionery, Districts of

Bankuara, Birbhum, Burdwan, District of Bilaspur.

Any other area which may be declared a Controlled Area by or with the approval of the Central Government.

### **CLAUSE 30 WATER FOR WORKS**

The Contractor(s) shall make his /their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions.

- (i) That the water used by the contractor(s) shall be fit for the intended purpose to the satisfaction of the Engineer-in-Charge.
- (ii) The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor(s) if the arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in- Charge, unsatisfactory.

### **CLAUSE 30A ALTERNATE WATER ARRANGEMENTS**

The contractor shall be allowed to construct temporary wells in Client land for taking water for construction purposes only after he has got permission of the Engineer-in- Charge in writing. No charges shall be recovered from the contractor on this account, but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

### **CLAUSE 31 HIRE OF PLANT & MACHINERY**

The contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T&P) required for execution of the work

### **CLAUSE 32 EMPLOYMENT OF TECHNICAL STAFF AND EMPLOYEES**

Contractors Superintendence, Supervision, Technical Staff & Employees

- (i) 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.

The contractor shall immediately after receiving letter of acceptance of the tender and before actual 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 below than specified in Schedule 'F'. 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) as per stipulation in Schedule 'F'

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 Schedule "F" 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 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) along with every on account bill/ final bill and shall produce evidence if at any time so required by the Engineer-in-Charge. 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.

- (ii) 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 labour 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 as soon as possible by competent substitutes.

### **CLAUSE 33 LEVY/TAXES PAYABLE BY CONTRACTOR**

- (i) GST, Building and other Construction Workers Welfare Cess or any other tax, levy or Cess in respect of input for or output by this contract as applicable shall be payable by the contractor and Government / HITES shall not entertain any claim whatsoever in this respect except as provided under clause 34.
- (ii) The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar, etc. from local authorities.

If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the Government of India and does not any time become payable by the contractor to the State Government, Local authorities in respect of any material used by the contractor in the works, then in such a case, it shall be lawful to the Government of India and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.

### **CLAUSE 34 CONDITIONS FOR REIMBURSEMENT OF LEVY/TAXES IF LEVIED AFTER RECEIPT OF TENDERS**

- (i) All tendered rates shall be inclusive of any tax (except GST), levy or cess applicable on last stipulated date of receipt of tender including extension if any. No adjustment i.e. increase or decrease shall be

made for any variation in the rate of GST, Building and Other Construction Workers Welfare Cess or any tax, levy or cess applicable on inputs.

However, effect of variation in rates of GST or Building and Other Construction Workers Welfare Cess or imposition or repeal of any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side, increase or decrease.

Provided further that for Building and Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes/levies/cess.

Provided further that such increase including GST shall not be made in the extended period of contract for which the contractor alone is responsible for delay as determined by authority for extension of time under Clause 5 in Schedule F.

- (ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by the Engineer-in-Charge and shall also furnish such other information document as the Engineer-in-Charge may require from time to time.
- (iii) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

#### **CLAUSE 35                    TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR**

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the authority indicated in schedule "F" on behalf of the HITES shall have the option of terminating the contract without compensation to the contractor.

#### **CLAUSE 36                    IF RELATIVE WORKING IN OFFICE OF CLIENT / HITES THEN THE CONTRACTOR NOT ALLOWED TO TENDER**

The contractor shall not be permitted to tender for works in the HITES department responsible for award and execution of contracts in which his near relative is posted as Divisional Accountant or equivalent or as an officer in any capacity between the grades of the General Manager/ Chief Engineer and Site Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Gazetted Officer in HITES. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of HITES. If however the contractor is registered in any other Dept. of HITES, he shall be debarred from tendering in the HITES in future for any breach of this condition.

NOTE: By the term "near relatives" is meant wife, husband, parents and grandparents, children and grandchildren, brothers and sisters and their corresponding in-laws.

#### **CLAUSE 37                    NO GAZETTED ENGINEER TO WORK AS CONTRACTOR WITHIN ONE YEAR OF RETIREMENT**

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the Government of India shall work as a contractor or employee of a contractor for a period of one year after his retirement from government service without the previous permission of Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Government of India as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

#### **CLAUSE 38                    THEORETICAL CONSUMPTION OF MATERIALS**

- (i) After completion of the work and also at any intermediate stage in the event of non-reconciliation of materials issued, theoretical quantity of materials used in the work shall be calculated on the basis and method given hereunder:-
  - (a) Quantity of cement & bitumen shall be calculated on the basis of quantity of cement & bitumen

required for different items of work as shown in the Schedule of Rates mentioned in Schedule "F". In case any item is executed for which standard constants for the consumption of cement or bitumen are not available in the above mentioned schedule/statement or cannot be derived from the same shall be calculated on the basis of standard formula to be laid down by the Engineer-in-Charge.

- (b) Theoretical quantity of steel reinforcement or structural steel sections shall be taken as the quantity required as per design or as authorized by Engineer-in-Charge, including authorized lappages, chairs etc. plus 3% wastage due to cutting into pieces, such theoretical quantity being determined and compared with the actually procured each diameter wise, section wise and category wise separately.
- (c) Theoretical quantity of G.I. & C.I. or other pipes, conduits, wires and cables, pig lead and G.I./M.S. sheets shall be taken as quantity actually required and measured plus 5% for wastage due to cutting into pieces (except in the case of G.I./M.S. sheets it shall be 10%), such determination & comparison being made diameter wise & category wise.
- (d) For any other material as per actual requirements.

Over the theoretical quantities of materials so computed a variation shall be allowed as specified in Schedule 'F'. For non-scheduled items, the decision of the Engineer-in-Charge regarding theoretical quantities of materials which should have been actually used, shall be final and binding on the contractor

- (ii) The said action under this clause is without prejudice to the right of the HITES to take action against the contractor under any other conditions of contract for not doing the work according to the prescribed specifications.

#### **CLAUSE 39 COMPENSATION DURING WARLIKE SITUATIONS**

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Engineer-in-charge or his authorized representative. The contractor shall be paid for the damages/ destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. Officers or the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work. In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer-in-charge.

#### **CLAUSE 40 APPRENTICES ACT PROVISIONS TO BE COMPLIED WITH**

The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the HITES may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

#### **CLAUSE 41 RELEASE OF SECURITY DEPOSIT**



The Security Deposit of the work shall be refunded if no labour complaint has been received from the Labour Officer till the due date of its payment. If a labour complaint is received during this period, the Engineer-In-Charge shall, after issue of notice in this regard to the Contractor, deduct the amount required to settle the complaint from his security deposit and refund the balance amount.

#### **CLAUSE 42 INSURANCE**

Without limiting the Contractor's obligations and responsibilities stated elsewhere in the Contract, the Contractor shall at his own cost arrange, secure and maintain insurance in the joint names of the HITES and the contractor with any of the subsidiary of the General Insurance Corporation of India in such a manner that the HITES and the contractor are covered for all time during the period of contract i.e. the time period allowed for completion of work and extended period.

The insurance shall be affected in accordance with terms approved by the HITES and the contractor shall submit the insurance policies to the Engineer-In-Charge within one week of signing of the agreement along with the receipt of premium. The contractor shall timely pay and submit the receipts of payment of premiums for extensions of policies, if any. The insurance shall cover the following:-

- a) **Contractor's All Risks Insurance** : The contractor shall insure the work for a sum equivalent to the Contract value together with materials and Plant for incorporation therein, to the full replacement cost and it being understood that such insurance shall provide for compensation to be payable to rectify the loss or damage incurred, and, an additional sum of 15 (%) per-cent of such replacement cost to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature, and it being understood that such insurance shall provide for compensation to be payable to rectify the loss or damage incurred or such additional sums as specified and the interests of the HITES against ALL RISKS claims, proceedings, loss or damages, costs, charges and expenses from whatsoever cause arising out of or in consequence of the execution and maintenance of the work for which the contractor is responsible under the contract.
- b) **Workman Compensation & Employers Liability Insurance**: This insurance shall be effected for all the contractor's employees engaged in the performance of the contract. The HITES shall not be liable in respect of any damages or compensation payable at law in respect of or in consequence of any accident or injury to any workman or any other person in the employment of the contractor and the contractor shall indemnify and keep indemnified the HITES against all such damages and compensation and against all claims, demands, proceedings, costs, charges and expenses, whatsoever in respect or in relation thereof.
- c) **Third Party Insurance**: The contractor shall be responsible for making good to the satisfaction of the Engineer- in-Charge any loss or any damage to all structures and properties belonging to the HITES or being executed or procured or being procured by the HITES or of the other agencies within the premises of all work of the HITES if such loss or damage is due to fault and or the negligence or willful acts or omissions and commissions of the contractor, his employees, agents, representatives.

The contractor shall take sufficient care in moving his plants, equipment and materials from one place to another so that they do not cause any damage to any person or to the property of the HITES or any third party including overhead and underground cables and in the event of any damage resulting to the property of the HITES or to a third party during the movement of the aforesaid plant, equipment or materials, the cost of such damages including eventual loss of production, operation or services in any plant or establishment as estimated by the HITES or ascertained or demanded by the third party, shall be borne by the contractor.

Before commencing the execution of the work, the contractor, shall insure and indemnify and keep the HITES harmless of all claims, against the contractor's liability for any materials or physical damage, loss or injury which may occur to any property, including that of the HITES or to any person including any employee of HITES, or arising out of the execution of the work or in the carrying out of the contract, otherwise than due to the matters referred to in the provision to (a) above. Such insurance shall be effected for an amount sufficient to cover such risks. The terms shall include a provision whereby, in the event of any claim in respect of which the contractor,

would be entitled to receive indemnify under the policy being brought or made against the HITES, the insurer willfully indemnify HITES against such claims and any costs, charges and expenses in respect thereof.

- d) The Contractor shall also at times indemnify the HITES against all claims, damages or compensation under the provisions of Payment or Wages Act, 1936, Minimum Wages Act, 1948, Employer's Liability Act, 1938, the Workman's Compensation Act, 1947, Industrial Disputes Act, 1947 and Maternity Benefit Act, 1961, or any modification thereof or any other law relating thereof and rules made there under from time to time.
- e) The Contractor shall also at his own cost carry and maintain any and all other insurance(s) which he may be required for the Contractor's Equipment and other things brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

42.1 The Contractor shall prove to the Engineer-in-charge from time to time he has taken out all the insurance policies referred to above and has paid the necessary premiums for keeping the policies alive till all time during the period of contract i.e. the time period allowed for completion of work and extended period.

42.2 The aforesaid insurance policies shall provide that they shall not be cancelled till the Engineer- in-charge has agreed for cancellation.

42.3 Remedy on the contractor's failure to insure: If the contractor shall fail to effect and keep in force the insurance referred to above or any other insurance which he/they may be required to effect under the terms of the contract then and in any such case Engineer-in-charge may without being bound to, effect and keep in force any such insurance and pay such premium or premiums, as may be necessary for that purpose and from time to time deduct the amount so paid by the Engineer-in-charge from any moneys due or which may become due to the contractor or recover the same as a debt due from the contractor.

**Appendix-XVI (Refer Clause 5.4)**

**Form of application by the Contractor for seeking Rescheduling of Mile Stone / Extension of Time**

1. Name of contractor
2. Name of work as given in the agreement
3. Agreement no
4. Estimated amount put tender
5. Date of commencement of work as per agreement
6. Period allowed for completion of work as per agreement
7. Date of completion stipulated in agreement
8. Period for which extension of time if has been given by authority in schedule “F” previously

	Letter No. And date	Extension granted	
		Months	Days
(a) 1 <sup>st</sup> extension			
(b) 2 <sup>nd</sup> extension			
(c) 3 <sup>rd</sup> extension			
(d) 4 <sup>th</sup> extension			
(e) Total extension previously given			

9. Reasons for which extension have been previously given (copies of the previous applications should be attached)
10. Period for which extension if applied for
11. Details of Hindrances on account of which extension is applied for with dates on which hindrances occurred and the period for which these are likely to last ( for cause under clause 5.2/ and 5.3)

Submitted to the authority indicated in schedule F with copy to the Engineer –in –charge.

Signature of contractor

Dated

**APPENDIX - XVII**

**Reference of disputes and amount claimed for each dispute to the Conciliator. [Refer to Clause 25]**

To,  
The .....

Subject: Reference of disputes and amount claimed for each dispute to the Conciliator for settlement of disputes relating to agreement number:....

Dear Sir,

In terms of clause 25 of the aforesaid agreement, particulars of which are given below, I/We hereby refer my / our disputes and amount claimed for each dispute to you for settlement in your capacity as Conciliator

1. Name of applicant:
2. Whether applicant is Individual/proprietorship Firm/Partnership Firm/Company.
3. Full address of the applicant:
4. Name of the work and contract number for which arbitration is sought:
5. Name of the Division which entered into contract:
6. Contract amount:
7. Date of contract.
8. Stipulated date of start of work:
9. Stipulated date of completion of work:
10. Actual date of completion of work (if completed):
11. Total number of claims made:
12. Total amount claimed:
13. Date of intimation of final bill (if work is completed):
14. Date of payment of final bill (if work is completed):
15. Amount of final bi (if work is completed):
16. Date of claim made to Engineer-in-Charge:
17. Date of receipt of decision from Engineer-in- Charge:

I/We certify that the information given above is true to the best of my/our knowledge. I/We enclose the statement of claims with amount of each claim.

Yours faithfully

.....

Signature of the applicant (Only the person/authority who signed the contract should sign here)

**Appendix-XVIII**  
**Notice for appointment of Arbitrator [Refer clause 25]**

To  
The

.....

Dear Sir,

In terms of clause 25 of the aforesaid agreement, particulars of which are given below, I/We hereby give you notice to appoint an Arbitrator for adjudication of disputes mentioned below:

1. Name of applicant
2. Whether applicant is Individual/Prop. Firm/Partnership Firm/Ltd. Co.
3. Full address of the applicant
4. Name of the work and contract number in which arbitration sought
5. Name of the Division which entered into contract
6. Contract amount in the work
7. Date of contract
8. Date of contract Date of initiation of work
9. Stipulated date of completion of work
10. Actual date of completion of work (if completed)
11. Total number of claims made
12. Total amount claimed
13. Date of intimation of final bill (if work is completed)
14. Date of payment of final bill (if work is completed)
15. Amount of final bill (if work is completed)
16. Date of reference made for conciliation, if applicable:
17. Date of termination of conciliation proceedings:

Specimen signatures of the applicant

(Only the person/authority who signed the contract should sign)

I/We certify that the information given above is true to the best of my/our knowledge. I/We enclose following documents.

1. Statement of claims with amount of claims.
- 2.
- 3.
- 4.

Copy in duplicate to:

The Engineer –in-charge

Yours faithfully,

**Appendix-XIX**

**Agreement towards waiver of section 12(5) of Arbitration & Conciliation Act 1996 [Refer clause 25]**

1. Whereas certain disputes have arisen between M/s ..... (Claimants) and M/s ..... (Respondents) relating to agreement no.....
  
2. And whereas the parties are aware that Shri..... is ..... (details of Arbitrator)
  
3. I / we agree for the appointment of Shri..... as the Sole Arbitrator for adjudication of the disputes, and we hereby waive the applicability of section 12(5) of the Arbitration & conciliation Act 1996.

Signature

(only the person/ authority who signed the contract should sign here)

Name.....

Date .....

(The name of the Arbitrator may be enquired from the Engineer-In-Charge if required)

**Undertaking by the Contractor to have complied with the provisions of Contract Labour (Regulation & Abolition) Act & Rules, EPF and ESI Obligations.**

(To be submitted alongwith each RA/ Final Bill) (Clause 7)

I ..... S/o Sh. .... Authorized representative of M/s ..... do hereby declare and undertake as under:

- 1. That in the capacity of independent Contractor for M/s HLL Infra Tech Services Ltd. at ....., Contractor engaged by me for the above said work, if any, have complied with the provisions of Contract Labour (Regulation & Abolition) Act, 1970 by holding a valid license under the Act and Rules thereto. I have paid the wages for the month of .....  
These wages are not less than the minimum rates applicable to all the employees and no other dues are payable to any employee.
- 2. That I and the sub-contractor engaged by me for the above said work, if any , have covered all the eligible employees under Employees Provident Funds and Miscellaneous Provisions Act, 1952 and the Employees State Insurance Act, 1948 and deposited the Contributions for the months up to ..... And as such no amount towards EPF/ESI contributions, whatsoever is payable, is pending.
- 3. I, further declare and undertake that in case any liability pertaining to my employees or towards employees of the sub-contractor engaged by me for the above said work, if any, arises in future, I shall be fully responsible for all consequences. In case, any Liability is discharged by HLL Infra Tech Services Ltd. due to my/ my sub-contractor"s lapse. I undertake to reimburse the same or HLL Infra Tech Services Ltd. is authorized to deduct the same from my dues at this Project or at any other Project.

Authorized Signatory (Name & Seal of Company)

Date: \_\_\_\_\_

Witness:

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

### **SECTION-3**

#### **SAFETY CODE**

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra Mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than  $\frac{1}{4}$  to 1 ( $1\frac{1}{4}$  horizontal and 1 vertical).
2. Scaffolding of staging more than 3.6 m (12 ft.) 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 atleast 90 cm (3 ft.) 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 (12 ft.) 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 (3 ft.).
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 9 m (30 ft) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. ( $11\frac{1}{2}$ " ) for ladder upto and including 3 metre (10 ft.) in length. For longer ladders this width should be increased atleast  $\frac{1}{4}$ " for each additional 30 cm.(1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which maybe 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 (4 ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 metre (100 ft) in length or fraction thereof. Ladder shall extend from bottom of the trench to at least 90 cm. (3 ft) above the surface of the ground. The sides of the trenches, which are 1.5 m (5 ft) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated material shall not be placed within 1.5 m (5 ft) 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.
6. (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 to 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 whitewashing 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) Stonebreakers 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 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 measures are adhered to:-
    - a) Entry for workers into the line shall not be allowed except under supervision of the Engineer in Charge 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, worker should be sent only with oxygen kit.
    - e) Safety belt with rope should be provided to the workers. While working inside the manhole 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 for the cleaning works is undertaken during night or day.
    - g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
    - h) The malba 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 malba.
    - 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 upto which 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 metres away from the opening and on the leeward side, protected from wind so that they will not be the 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 working in the manhole.
  - m) The worker shall be provided with Gumboots or non-sparking shoes bump helmets and gloves non-sparking tools and safety lights and gas masks and portable air-blowers (when necessary). They must be supplied with barrier cream for anointing the limits 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.
- vi) The contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Whenever men above the age of 18 years are employed on the work of lead painting, the following precautions should be taken: -
- a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
  - b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
  - c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
9. The Contractor shall not employ women and men below the age of 18 years on the work of painting with product containing lead in any form. Whenever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:
- i) White lead, sulphate of lead or product containing these pigments, 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 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 scrapping.
  - iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work
  - v) Overall shall be worn by working painters during the whole of working period.
  - vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
  - vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by the competent authority of Department.

- viii) Department 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 should be provided & kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions: -
- (i) (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
- (b) Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength, and free from patent defects.
- (ii) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
- (iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley blocks 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 hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear, referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- (iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regard contractor's machines the contractors shall notify the safe working load of the machines to the Engineer-in-Charge whenever he brings any machinery to the 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 Labour Officer or the Engineer-in-Charge 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.

## SECTION -4

### RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY CONTRACTORS

#### **1. APPLICATION**

These rules shall apply to all buildings and construction works in charge of the Client in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

#### **2. DEFINITION**

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

#### **3. FIRST-AID FACILITIES**

- i) At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first aid boxes at the rate of not less than one box for 150-contract labour or part thereof ordinarily employed.
- ii) The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment: -
  - a) For work places in which the number of contract labour employed does not exceed 50- Each first-aid box shall contain the following equipment: -
    1. 6 small sterilised dressings.
    2. 3 medium size sterilised dressings.
    3. 3 large size sterilised dressings.
    4. 3 large sterilised burn dressings.
    5. 1 (30 ml.) bottle containing a two percent alcoholic solution of iodine
    6. 1 (30ml) bottle containing salvolatile having the dose and mode of administration indicated on the label.
    7. 1 snakebite lancet.
    8. 1 (30gms.) bottle of potassium permanganate crystals.
    9. 1 pair scissors.
    10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institute, Government of India or his Client.
    11. 1 Bottle containing 100 tablets (each of 5 gms.) of aspirin.
    12. Ointment for burns.
    13. A bottle of suitable surgical antiseptic solution
  - b) For workplaces in which the number of contract labour exceeds 50- Each first-aid- box shall contain the following equipment.
    1. 12 small sterilized dressing.
    2. 6 medium size sterilised dressings.
    3. 6 large size sterilised dressings.
    4. 6 large size sterilised burn dressings.
    5. 6 (15-gms.) packets sterilised cotton wool.
    6. 1 (60 ml.) bottle containing two percent alcoholic solution iodine.
    7. 1 (60-ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.

8. 1 roll of adhesive plaster.
  9. 1 snake bite lancet.
  10. 1 (30 gms.) bottle of potassium permanganate crystals.
  11. 1 pair of scissors.
  12. 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institute/ Government of India or Client of India.
  13. A bottle containing 100 tablets (each of 5 gms.) of aspirin.
  14. Ointment for burns.
  15. A bottle of suitable surgical antiseptic solution.
- iii) Adequate arrangements shall be made for immediate procurement of the equipment when necessary.
  - iv) Nothing except the prescribed contents shall be kept in the First-aid box.
  - v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours at the work place.
  - vi) A person in charge of the first-aid box shall be a person trained in First-Aid treatment, at the work places where the number of contract labour employed is 150 or more.
  - vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works, First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
  - viii) Where work places are situated in places, which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

#### **4. DRINKING WATER**

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

#### **5. WASHING FACILITIES**

- i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
- iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

#### **6. LATRINES AND URINALS**

- i) Latrines shall be provided in every work place on the following scale namely:-
  - a) Where female are employed there shall be at least one latrine for every 25 females.
  - b) Where males are employed, there shall be at least one latrine for every 25 males.

Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for

25 males or females as the case may be upto the first 100, and one for every 50 thereafter.

- ii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
  - iii) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year. Latrines shall not be of a standard lower than bore-hole system.
  - iv) a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women only" as the case may be.
- b) The notice shall also bear the figure of a man or a woman, as the case may be.
- v) There shall be at least one urinal for upto 50 number of male workers and one for upto 50 number of female workers employed at a time, provided that where the number of male or female workers, as the case may be, exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females, upto the first 500 and one for every 100 or part thereafter.
  - vi) a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
- b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.
- vii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
  - viii) Disposal of excreta: - Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed off by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (When it will turn to manure).
  - ix) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges, which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

## **7. PROVISION OF SHELTER DURING REST**

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sq. m. (6 sq. ft.) per head.

Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

## **8. CRECHES**

- i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a playroom for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19 H (ii) a, b & c.
- ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- iii) The contractor shall supply adequate number of toys and games in the playroom and sufficient number of cots and beddings in the bedroom.
- iv) The contractor shall provide one ayah to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceeds 50.

- v) The use of the rooms earmarked as crèches shall be restricted to children, their attendants and mothers of the children.

## 9. CANTEENS

- i) In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- ii) The contractor shall maintain the canteen in an efficient manner.
- iii) The canteen shall consist of atleast a dining hall, kitchen, storeroom, pantry and washing places, separately for workers and utensils.
- iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- v) The floor shall be made of smooth and impervious materials and inside walls shall be lime-washed or colour washed atleast once in each year. Provided that the inside walls of the kitchen shall be lime-washed every 4 months.
- vi) The premises of the canteen shall be maintained in a clean and sanitary condition.
- vii) Wastewater shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- viii) Suitable arrangements shall be made for the collection and disposal of garbage.
- ix) The dining hall shall accommodate at a time 30 percent of the contract labour working at a time.
- x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture, except tables and chairs, shall not be less than one square metre (10 sft.) per diner to be accommodated as prescribed in sub-Rule 9.
- xi)
  - a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
  - b) Washing places for women shall be separate and screened to secure privacy.
- xii) Sufficient tables, stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.
- xiii) a)
  - 1. There shall be provided and maintained, sufficient utensils, crockery, furniture and any other equipments, necessary for the efficient running of the canteen.
  - 2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
- b)
  - 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
  - 2. A service counter, if provided, shall have top of smooth and impervious material.
  - 3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment"s.
- xiv) The foodstuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- xv) The charges for foodstuffs, beverages and any other items served in the canteen shall be based on „No profit, No loss' and shall be conspicuously displayed in the canteen.
- xvi) In arriving at the price of food stuffs, and other articles served in the canteen, the following items

shall not be taken into consideration as expenditure namely: -

- a) The rent of land and building.
- b) The depreciation and maintenance charge for the building and equipment's provided for the canteen.
- c) The cost of purchase, repairs and replacement of equipment"s including furniture, crockery, cutlery and utensils.
- d) The water charges and other charges incurred for lighting and ventilation.
- e) The interest and amounts spent on the provision and maintenance of equipment's provided for the canteen.

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

#### **10. ANTI-MALARIAL PRECAUTIONS**

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

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

#### **12. AMENDMENTS**

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



## SECTION-5

### CONTRACTOR'S LA BOUR REGULATIONS TO BE FOLLOWED IN THIS PROJECT

#### 1. SHORT TITLE

These regulations may be called the Contractors Labour Regulations and shall be followed by the Contractor for this Project.

#### 2. DEFINITIONS

- i) **Workman** means, any person employed by Department or its contractor directly or indirectly, through a subcontractor, with or without the knowledge of the Department, to do any skilled, semiskilled or unskilled, manual, supervisory, technical or clerical work, for hire or reward, whether the terms of employment are expressed or implied, but does not include any person: -
  - a) Who is employed mainly in a managerial or administrative capacity; or,
  - b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature; or,
  - c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

No person below the of 14 years shall be employed to act as a workman

- ii) **Fair Wages** means wages whether for time or piecework fixed and notified under the provision of the Minimum Wages Act from time to time.
- iii) **Contractors** shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.
- iv) **Wages** shall have the same meaning as defined in the Payment of Wages Act.

#### 3.

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

#### **4. DISPLAY OF NOTICE REGARDING WAGES ETC.**

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

#### **5. PAYMENT OF WAGES.**

- i) The contractor shall fix wage periods in respect of which wages shall be payable.
- ii) No wage period shall exceed one month.
- iii) The wages of every person employed as contract labour in an establishment or by a contractor, where less than one thousand such persons are employed, shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- iv) Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- vi) Wages due to every worker shall be paid to him direct or to other person authorised by him in this behalf.
- vii) All wages shall be paid in current coin or currency or in both.
- viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.
- ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgement.
- x) It shall be the duty of the contractor to ensure the disbursement of wages in presence of authorised representative of the Engineer-in-Charge who will be required to be present at the place and time of the disbursement of wages by the contractor to workmen.
- xi) The contractor shall obtain from the junior engineer or any other authorised representative of the Engineer-in-Charge, as the case may be, a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll", as the case may be, in the following form:

"Certified that the amount shown in the column No.....has been paid to the workman concerned in my presence on.....at....."

#### **6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES**

- (i) The wages of a worker shall be paid to him without any deduction of any kind except the following: -
  - (a) Fines
  - (b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
  - (c) Deductions for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deductions which he is required to account, where such damage or loss is directly attributable to his neglect or default.
  - (d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
  - (e) Any other deduction, which the Central Government may from time to time, allows.

- (ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.

**Note:-** An approved list of Acts and Omission for which fines can be imposed is enclosed at Appendix-1.

- (iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- (iv) The total amount of fine, which may be imposed, in any one-wage period, on a worker, shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.
- (v) No fine imposed on any worker shall be recovered from him by instalment, or after the expiry of sixty days from the date on which it was imposed.
- (vi) Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

## **7. LABOUR RECORDS**

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

The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omission for which fines can be imposed (Appendix X)

- (vi) The contractor shall maintain a **Register of deductions for damage or loss** in Form XX of the CL (R&A) Rules 1971 (Appendix XII).

- (vii) The contractor shall maintain a **Register of Advances** in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIII).
- (viii) The contractor shall maintain a **Register of Overtime** in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIV).

#### **8. ATTENDANCE CARD-CUM WAGE SLIP**

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

#### **9. EMPLOYMENT CARD**

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

#### **10. SERVICE CERTIFICATE**

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

#### **11. PRESERVATION OF LABOUR RECORDS**

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Department this behalf.

#### **12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY**

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

#### **13. REPORT OF LABOUR OFFICER**

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

- i) Engineer in charge shall arrange payments to the labour concerned within 45 days from the receipt of the report form or the Client / HITES as the case may be the Labour Officer

#### **14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER**

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

## **15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER**

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

## **16. INSPECTION OF BOOKS AND SLIPS**

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

## **17. SUBMISSION OF RETURNS**

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

## **18. AMENDMENTS**

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

**REGISTER OF MATERNITY BENEFITS (Clause 19F)**

Name and address of the contractor \_\_\_\_\_

Name and Location of the work \_\_\_\_\_

Name of the Employee	Father's/husband's name	Nature of Employment	Period of actual confinement	Date on which notice of
1	2	3	4	5

Date on which maternity leave commenced and ended				
Date of Delivery/ Miscarriage	In case of delivery		In case of miscarriage	
	Commenced	Ended	Commenced	Ended
6	7	8	9	10

Leave pay paid to the employee				Remarks
In case of delivery		In case of miscarriage		
Rate of leave pay	Amount paid	Rate of leave pay	Amount paid	
11	12	13	14	15

**SPECIMEN FORM OF THE REGISTER, REGARDING MATERNITY BENEFIT ADMISSIBLE TO THE CONTRACTOR'S LABOUR**

Name and address of the contractor\_\_\_\_\_

Name and location of the work\_\_\_\_\_

1. Name of the woman and her husband's name.
2. Designation
3. Date of appointment.
4. Date with months and years in which she is employed.
5. Date of discharge / dismissal, if any.
6. Date of production of certificates in respect of pregnancy.
7. Date on which the woman informs about the expected delivery.
8. Date of delivery / miscarriage / death.
9. Date of production of certificates in respect of delivery / miscarriage.
10. Date with the amount of maternity/ death benefit paid in advance of expected delivery.
11. Date with amount of subsequent payment of maternity benefit.
12. Name of the person nominated by the woman to receive the payment of the maternity benefit after her death.
13. If the woman dies, the date of death, the name of the person to whom maternity benefit amount was paid, the month thereof and the date of payment.
14. Signature of the contractor authenticating entries in the register.
15. Remarks column for the use of inspecting officer.

**LABOUR BOARD**

Name of work:\_\_\_\_\_

Name of Contractor:\_\_\_\_\_

Address of Contractor:\_\_\_\_\_

Name and address of Construction divn./unit \_\_\_\_\_

Name of CLIENT Labour Officer : \_\_\_\_\_

Address of CLIENT Labour Officer:\_\_\_\_\_

Name of Labour Enforcement Officer:\_\_\_\_\_

Address of Labour Enforcement Officer:\_\_\_\_\_

Sl.No	Category	Minimum wage Fixed	Actual paid	wage	Number Present	Remarks

Weekly holiday\_\_\_\_\_

Wage period \_\_\_\_\_

Date of payment of Wages\_\_\_\_\_

Working hours\_\_\_\_\_

Rest interval\_\_\_\_\_



Form-XIII (See Rule 75)

**Register of Workmen Employed by Contractor**

Name and address of contractor \_\_\_\_\_

Name and address of establishment under which contract is carried on \_\_\_\_\_

Nature and location of Work \_\_\_\_\_

Name and address of Principal Employer \_\_\_\_\_

1	2	3	4	5	6	7	8	9	10	11	12
Sl. No.	Name and surname of Workman	Age and Sex	Father's / Husband's Name	Nature of employment / designation.	Permanent home address of the workman (Village and Tehsil, Taluka and District)	Local Address	Date of commencement of employment	Signature or thumb impression of the workman	Date of Termination of employment.	Reasons For terminations.	Remarks

Form-XVI (See Rule 78(2)(a))

**Muster Roll**

Name and address of the contractor \_\_\_\_\_

Name and address of establishment under which contract is carried on \_\_\_\_\_

Nature and location of work \_\_\_\_\_

Name and address of Principal Employer \_\_\_\_\_

For the month of fortnight \_\_\_\_\_

Sl. No.	Name of workman	Sex	Father's/ Husband's Name	Dates					Remarks
				1	2	3	4	5	
1	2	3	4	5	6	7	8	9	10

**Form -XVII (See Rule 78(2)(a))**

**Register of Wages**

Name and address of the contractor \_\_\_\_\_

Name and address of establishment under which contract is carried on \_\_\_\_\_

Nature and location of work \_\_\_\_\_

Name and address of Principal Employer \_\_\_\_\_

Wages period \_\_\_\_\_ Monthly/fortnightly

Sl.No.	Name of workman	Serial No.in the register of workman	Designation of Nature of work done	No. of days worked	Units of work done	Daily rate of wages/piece rate	Basic Wages
1	2	3	4	5	6	7	8

Dearness allowances	Overtime	Other cash payments (Indicate nature)	Total	Deductions if any, (indicate nature)	Net amount paid	Signature or thumb impression of the workman	Initial of contractor or his representative
9	10	11	12	13	14	15	16

**Appendix "VII"**  
**(Observe)**

Wage Card No. \_\_\_\_\_  
**Wage Card**

Name and address of the contractor \_\_\_\_\_ Date of issue \_\_\_\_\_

Name and location of work \_\_\_\_\_ Designation \_\_\_\_\_

Name of Workman \_\_\_\_\_ Month/fortnight-----

Rate of Wages \_\_\_\_\_

DATE																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Morning																															
Evening																															
Initial																															

Rate \_\_\_\_\_ Amount \_\_\_\_\_

Received from \_\_\_\_\_ the sum of Rs. \_\_\_\_\_ on account of my wages.

Signature

The wage card is valid for one month from the date of issue

Form-XIX  
(See rule 78(2)(b))

**Wages Slip**

Name and address of the contractor\_\_\_\_\_

Name and Father's/Husband's name of workman\_\_\_\_\_

Nature and location of work\_\_\_\_\_

For the Week/Fortnight/Month ending\_\_\_\_\_

1. No. of days worked \_\_\_\_\_
2. No. of units worked in case of piece rate workers\_\_\_\_\_
3. Rate of daily wages/piece rate\_\_\_\_\_
4. Amount of overtime wages\_\_\_\_\_
5. Gross wages payable\_\_\_\_\_
6. Deduction, if any\_\_\_\_\_
7. Net amount of wages paid\_\_\_\_\_

Initials of the Contractors or his representative

Form-XIV  
(See rule 76)

**Employment Card**

Name and address of the contractor\_\_\_\_\_

Name and address of establishment under which contract is carried on\_\_\_\_\_

Nature of work and location of work\_\_\_\_\_

Name and address of Principal Employer\_\_\_\_\_

1. Name of Workman\_\_\_\_\_
2. Sl No. in the register of workman employed\_\_\_\_\_
3. Nature of employment/designation\_\_\_\_\_
4. Wage rate (with particulars of unit in case of piece work)\_\_\_\_\_
5. Wages period\_\_\_\_\_
6. Tenure of employment\_\_\_\_\_
7. Remarks\_\_\_\_\_

Signature of contractor

Form-XV (See Rule 77)

**Service Certificate**

Name and address of the contractor\_\_\_\_\_

Nature and location of work\_\_\_\_\_

Name and Address of workman\_\_\_\_\_

Age or date of birth\_\_\_\_\_

Identification marks\_\_\_\_\_

Father's/Husband's name\_\_\_\_\_

Name and address of establishment in under which contract is carried on\_\_\_\_\_

Name and address of Principal Employer\_\_\_\_\_

Sl. No.	Total period for which employed		Nature of work done	Rate of Wages (with particulars of unit in case of piece work)	Remarks
	From	To			
1	2	3	4	5	6

Signature

**LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED**

In accordance with rule 7 (v) of the Contractor's Labour Regulations to be displayed prominently at the site of work both in English and local Language.

1. Willful insubordination or disobedience, whether along or in combination with other.
2. Theft fraud or dishonestly in connection with the contractors beside a business or property of Department.
3. Taking or giving bribes or any illegal gratifications.
4. Habitual late attendance.
5. Drunkenness fighting, riotous or disorderly or indifferent behaviour.
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked.
8. Habitual indiscipline.
9. Causing damage to work in the progress or to property of the Department or of the contractor.
10. Sleeping on duty.
11. Malingering or slowing down work.
12. Giving of false information regarding name, age, father's name etc.
13. Habitual loss of wage cards supplied by the employers.
14. Unauthorized use of employer's property of manufacturing or making of unauthorized particles at the work place.
15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the Department and for which the contractors are compelled to undertake rectification.
16. Making false complaints and/or misleading statements.
17. Engaging on trade within the premises of the establishments.
18. Any unauthorized divulgence of business affairs of the employees.
19. Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.
20. Holding meeting inside the premises without previous sanction of the employers.
21. Threatening or intimidating any workman or employer during the working hours within the premises.



Form-XII (See Rule 78(2)(d))

**Register of Fines**

Name and address of the contractor\_\_\_\_\_

Name and address of establishment in under which contract is carried on\_\_\_\_\_

Nature and location of work\_\_\_\_\_

Name and address of Principal Employer\_\_\_\_\_

Sl.No.	Name of workman	Father's/Husband's name	Designation/nature of employment	Act/Omission For which fine imposed	Date of Offence
1	2	3	4	5	6

Whether workman Showed cause against fine	Name of person in whose presence employees explanation was heard	Wage period And wages payable	Amount of fine imposed	Date on which fine realized	Remarks.
7	8	9	10	11	12

Form-XX (See Rule 78(2)(d))

**Register of Deduction for Damage or Loss**

Name and address of the contractor\_\_\_\_\_

Name \_\_\_\_\_ and address of establishment in \_\_\_\_\_ under which contract is carried on \_\_\_\_\_

Nature and location of work\_\_\_\_\_

Name and address of Principal Employer\_\_\_\_\_

Sl. No.	Name of workman	Father's/Husband's name	Designation/nature of employment	Particulars of damage or loss	Date of damage or loss
1	2	3	4	5	6

Whether workman showed cause against fine	Name of person in whose presence employees explanation	Amount of deduction imposed	No. of installments	Date of recovery		Remarks
				First installment	Last installment	
7	8	9	10	11	12	13

**Register of Advances**

Name and address of the contractor \_\_\_\_\_

Name and address of establishment in under which contract is carried on \_\_\_\_\_

Nature and location of work \_\_\_\_\_

Name and address of Principal Employer \_\_\_\_\_

Sl. No.	Name of workman	Father' s/Husband' s name	Designation nature of employment	Wage period and wages payable	Date and Amount of Advance given	Purpose(s) for which Advance made	Number of Installments by which advance to be repaid	Date and amount of each installments repaid	Date on which last Installments was repaid	Remarks
1	2	3	4	5	6	7	8	9	10	11

Form-XXIII (See Rule 78(2)(e))

**Register of Overtime**

Name and address of the contractor \_\_\_\_\_

Name \_\_\_\_\_ and address \_\_\_\_\_ of establishment in \_\_\_\_\_ under which contract is carried on \_\_\_\_\_

Nature and location of work \_\_\_\_\_

Name and address of Principal Employer \_\_\_\_\_

Sl. No.	Name of workman	Father' s/husband' s name	Sex	Designation /nature of employment	Date on which Overtime worked	Total overtime worked or production in case of piece rated	Normal rate of wages	Overtime rate of wages	Overtime earnings	Rate on which overtime wages paid	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

**SECTION - 6**

**PROFORMA OF SCHEDULES**

**(Operative Schedules)**

<b>SCHEDULE "A"</b>		
	Schedule of quantities (BOQ)	Attached as Volume -V, Bill of Quantities.
<b>SCHEDULE "B"</b>		
	Schedule of materials to be issued to the contractor	<b>NIL</b>
<b>SCHEDULE "C"</b>		
	Tools and plants to be hired to the contractor	<b>NIL</b>
<b>SCHEDULE "D"</b>		
	Extra schedule for specific requirements/ document for the work, if any.	<b>NIL</b>
<b>SCHEDULE "E"</b>		
	Reference to General Conditions of Contract as per Vol-2	
	Name of work ::	ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR INSTITUTE OF ADVANCED VIROLOGY, THONNAKKAL, TRIVANDRUM
	Estimated cost of work:	Rs. 3,67,49,212.41/- (Excluding GST)
Clause: 1	Performance Guarantee:	3 % of Tendered Value
Clause: 1A	Security Deposit:	3 % of Tendered Value
<b>SCHEDULE "F"</b>		
	<b>GENERAL RULES &amp; DIRECTIONS</b>	
	Officer inviting bid	Deputy General Manager (ID) HLL Infra Tech Services Limited (HITES)
	Maximum percentage for quantity of items of work to be executed beyond which the rates are to be determined in accordance with Clause 12.2 & 12.3	Under class 12 below
	<b>DEFINITIONS</b>	

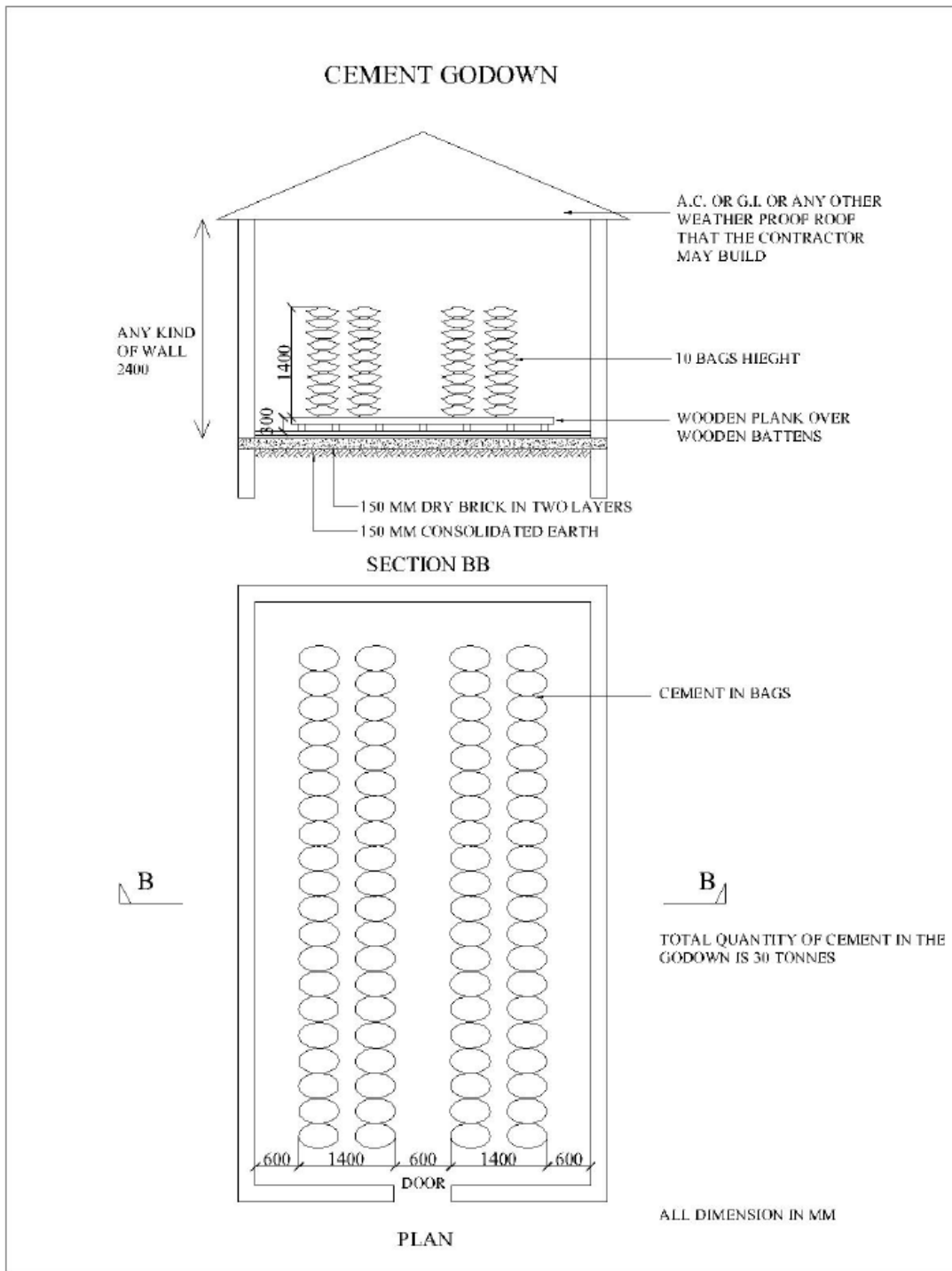
1	Authority executing the agreement on behalf of the HITES	Competent authority as per HITES DOP	
2(i)	Accepting Authority	Competent authority as per HITES DOP	
2(vi)	Engineer-in-Charge	Officer nominated by HITES	
2(ix)	Percentage on cost of materials and labour to cover all Overheads and profits.	15%	
2(xi)	Standard Schedule of Rates	Delhi Schedule of Rates 2018, with up to date correction slips (up to date of floating of NIT) and LMR	
2(xii)	Department	HITES	
9(ii)	Standard Contract Form	Form W-8	
<b>CLAUSES OF CONTRACT</b>			
<b>Clause 1</b>	(i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance	<b>15 days</b>	
	(ii) Time allowed for submission of Programme Chart (Time & Progress), manpower deployment from the date of issue of letter of acceptance	<b>15 days</b>	
	iii) Time allowed for submission of applicable labour licenses, registration with EPFO, ESIC & BOCW Welfare Board or proof of applying thereof from the date of signing of agreement	<b>10 days</b>	
	(iv) Maximum allowable extension for submission of Performance Guarantee, with late fee @ 0.1% per day of Performance Guarantee amount beyond the period as provided in (i) above.	<b>07 days</b>	
<b>Clause 2</b>	Authority for fixing compensation under Clause 2.	Competent authority of HITES as per DOP	
<b>Clause 5</b>	Number of days from the date of issue of letter of acceptance for reckoning date of Start	First date of handing over of the site or 15th day from the date of issue of Letter of Acceptance (LOA) whichever is later.	
<b>Mile stone(s) will be as per table given below:</b>			
	Description of Milestone (Physical)	Time allowed in days (from date of start)	Amount to be with- held in case of non - achievement of milestone.
Milestone shall be submitted by the contractor within 15 days from the date of LOA to the Engineer in charge and it shall be mutually finalized by the Engineer In Charge and the contractor			

Clause 5.4	Schedule of rate of recovery for delay in submission of the modified programme in terms of delay days	Rs. 5000/day
	Authority to decide:	
	(i) Extension of time	Competent authority of HITES as per DOP
	(ii) Rescheduling of mile stones	Competent authority of HITES as per DOP
	(iii) Shifting of date of start in case of delay in handing over of site	Competent authority of HITES as per DOP
Clause 7	Gross work to be done together with net payment /adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment.	To be decided by EIC
Clause 7A	Whether clause 7A shall be applicable	<b>Yes</b>
Clause 8A	Authority to decide compensation on account if contractor fails to submit completion plans	VP (ID)-HITES (South Operations) / Unit Chief (IDS), HLL Infra Tech Services Limited (HITES), Trivandrum
Clause 10A	List of testing equipment to be provided by the contractor at site laboratory.	As per directions of EIC
Clause 10B	Secured Advance:- Whether Clause 10 B (i) shall be applicable	<b>Not Applicable</b>
	Mobilization Advance:- Whether Clause 10 B (ii) shall be applicable	<b>Not Applicable</b>
Clause 10 C	Payment on Account of Increase in Prices/Wages Due To Statutory Order(S)	<b>Not applicable</b>
Clause 10CA	Cost escalation for Cement & Steel	<b>Not applicable</b>
Clause 10CC	Cost escalation excluding materials covered under clause 10 (CA)	<b>Not applicable</b>
Clause 11	Specifications to be followed for execution of work	Technical Specifications (Volume IV) of the tender documents and CPWD Specifications with up to date correction slips, (up to date floating of tender) / Technical Specifications (Volume IV) of the tender documents /specification approved by Engineer in charge
Clause 12	Authority to decide deviation upto 1.5 times of tendered amount	Competent authority of HITES as per DOP

12.2 & 12.3	Deviation Limit beyond which clauses 12.2 & 12.3		25%				
(i)	Deviation limit beyond clause 12.2 & 12.3 shall apply for foundation works (except items mentioned in earth work sub head in DSR and related items		25%				
(ii)	Deviation limit for items mentioned in earth work sub head of DSR and related items		100%				
Clause 16	Competent Authority for deciding reduced rates		VP (ID)-HITES (South Operations) / Unit Chief (IDS), HLL Infra Tech Services Limited (HITES), Trivandrum				
Clause 18	List of mandatory machinery, tools & plants to be deployed at site.		As per requirements of Description of work in BOQ and Provisions in Clause				
Clause 25	Settlement of Disputes & Arbitration		Conciliator : VP (ID)-HITES (South Operations) / Unit Chief (IDS), HLL Infra Tech Services Limited				
			Arbitrator Appointing Authority: The Chief Operating Officer / Chief Executive Officer, HLL Infra Tech Services Limited				
			Place of Arbitration : Trivandrum, Kerala or the Arbitral Tribunal may decide the place in consultation with both the parties				
<b>Clause 32(i)</b>	<b>Minimum Requirement of Technical Representative(s) and monthly recovery Rate</b>						
Sl No	Minimum qualification	Discipline	Designation	Minimum Experience in years	Minimum (No.)	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 32 (i) (Rs. Per Month)	
						Figures (Rs)	Words (Rupees)
1	Graduate Engineer (Civil)	B. Tech/ BE	Project Manager	12	1	Rs.40,000/-	Rupees Forty Thousand Only



2	Graduate Engineer / Diploma Engineer (Mechanical/ Electrical)	B. Tech/ BE/diploma	Project Manager cum Planning/ quality/ Site/Billing Engineer	2 or 5 respectively	1+1	Rs.15,000/- per month per person	Rupees Fifteen Thousand
<b>Note:</b> The personnel above to be in position at site as per requirements at project site or within 15 days of directions of Engineer-in-Charge whichever is earlier.							
Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers							
Diploma holder with 10 years relevant experience with a reputed construction company can be treated at par with graduate Engineer for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of the requirement of Graduate Engineers.							
<b>Clause 35</b>	Authority having option of terminating the Contract in event of death of Contractor					VP (ID)-HITES South Operations) / Unit Chief (IDS), HLL Infra Tech Services Limited , Trivandrum	
<b>Clause 38</b>							
i)	a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates					CPWD PAR 2020 and Delhi Schedule of Rates 2019 with amendments up to the last date of submission of the bid.	
ii)	Variation permissible on theoretical quantities						
	a)	i) Cement for works with estimated cost put to tender not more than Rs. 25 lakhs.				3% plus/minus	
		ii) Cement for works with estimated cost put to tender more than Rs. 25 lakhs.				2% plus/minus	
	b)	Bitumen all works				2.5% plus only & Nil on minus side	
	c)	Steel reinforcement and structural steel Sections for each diameter, section and category				2% plus/minus	
	d)	All other materials				Nil	



**END OF VOLUME II**

**HLL INFRA TECH SERVICES LIMITED**  
**(Subsidiary of HLL Lifecare Ltd., A Government of India**  
**Enterprise)**

**TENDER**  
**FOR**

**ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR INSTITUTE**  
**OF ADVANCE VIROLOGY, THONNAKKAL, TRIVANDRUM.**

**Volume- III**

**SPECIAL CONDITIONS OF CONTRACT**

**Tender No. HITES/IDS/22/20**



Golden Jubilee Block, HLL Bhavan,  
Poojappura P.O

Thiruvananthapuram

Ph: 0471 -2775500

## **CHAPTER A**

### **GENERAL**

#### **1. Drawings**

##### **1.1. Tender Drawings**

The tender drawings are for Tender Purpose only and are intended as a guide to the Bidder/ Contractor and give general layout of buildings and general information of the structures and general positions of utilities, services and equipment only. Contractor's quoted rate for any item should not be based on any measurement, quantity, and specification from these drawings. Any claim raised by the contractor in this regard shall not be valid in this contract and shall not be accepted by the HITES.

##### **1.2. Issue and custody of drawings & specifications**

The contractor on signing of contract shall be furnished free of cost one copy of all drawings and all further drawings issued during the progress of the works. The contractor shall keep one copy of all drawings at the works site and the Engineer-in-charge shall have, at all reasonable times, access to the same.

The drawings shall be provided to the Contractor as per the schedule (prepared at the start of the works and necessarily updated or revised from time to time) as mutually agreed by the Engineer-in-charge and the Contractor. Last major drawings may be provided as per the schedule prior to the stipulated date of completion and the Contractor, if found necessary shall increase his resources and effort so as to complete the works within stipulated time.

From time to time during the course of contract revised drawings may be issued to the Contractor and the Contractor shall ensure that all superseded drawings are removed from site and stored in a lockable cabinet as directed by the Engineer-in-charge and replaced by revised drawings.

The Contractor shall maintain complete up to date Register of drawings issued at site. All drawings shall be properly numbered and indexed for ready reference. Superseded drawings should be properly identified.

The contractor shall ensure that only the valid up to date drawings are used for setting out, construction and preparation of as built drawings etc.

##### **1.3. Working drawings/ Shop drawings/ Design:**

The drawings supplied by the Engineer-in-charge have been listed in the tender documents. These drawings are indicative for the purpose of detailing and requirement of the contract. The contractor shall take into consideration space allocated for equipment's before ordering them to ensure that the equipment would fit in the space provided with necessary clearances required as per the relevant standard/ manufacturer's recommendations. In case of any difficulty it should be brought to the notice of the Engineer - in- Charge.

Detailing for shop drawings of services included in the scope of work of contractor will have to be done by the contractor based on the schematics and other details provided by the Engineer-in-charge or local authorities. The work will be executed by the contractor based on the approved shop drawings from the concerned authority and accordingly contractor will be responsible for obtaining all required final NOC/ clearance from concerned authorities. These

drawings and details shall also contain details of construction, size, arrangement, operating clearances, performance characteristics and capacity of all items of equipments and also details of all related items of work by other discipline.

The contractor shall submit to the Engineer-in-charge for approval details of all proposed equipment, accessories, equipment characteristics and capacity details of all equipment, accessories and devices etc. as per the specifications and obtain approval of the Engineer-in-charge.

In case there is delay in any drawings and design viz shop drawings, or specialized works drawings etc. to be supplied by the contractor, Engineer-in- Charge may ask the Contractor to make necessary changes, as required. In case of failure on the part of the contractor to carry out the directions of the Engineer - in- Charge action may be taken to get the needful done at the risk and cost of the Contractor. All drawings shall be signed by Contractor or their authorised representative with name, seal and date before submission to Engineer-in-charge.

1.3.1 Engineer in charge shall issue the Good For Construction (GFC) Drawings to the contractor for Electrical & ELV services

1.3.2 The Contractor shall carry out and complete the said work in every respect in accordance with this Contract and with the directions of and to the satisfaction of the Engineer-in-charge. The Engineer-in-charge may in his absolute discretion and from time to time further issue drawings and/or written instructions, details, directions and explanations, which are hereafter collectively referred to as “Engineer-in-charge’s Instructions” in regard to:

- a. The variation or modification of the design, quality or quantity of items of works or the addition or omissions or substitution of any item.
- b. Any discrepancy in the drawings or between the bill of quantities and/or drawings and/or specifications.
- c. The removal from the site of any material brought thereon by the contractor and the substitution of any other material thereof.
- d. The removal and/or re-execution of any works executed by the contractor.
- e. The removal of any persons employed by the contractor on the site.
- f. The opening up for inspection of any work covered up.
- g. The amending and making good of any defects noticed during or after execution of the work.

The Contractor shall forthwith comply with and duly execute any work in compliance to above instructions provided always that verbal instructions, directions and explanations given to the contractor or his representative by the Engineer - in- Charge, shall, if involving a variation, be confirmed in writing by the Contractor within seven days, and if not dissented in writing within a further seven days by the Engineer - in- Charge, these shall be deemed to be Engineer - in- Charge’s instructions within the scope of the contract.

#### 1.4. Shop Drawings

1.4.1. The Contractor shall furnish for approval of the Engineer-in-charge three sets

of detailed sanitary, plumbing, HVAC & Shop drawings of all equipments and materials required to complete the work as per specifications well in advance. These drawings shall contain details of construction, size, arrangement, operating clearances, performance characteristics, and capacity of all items of equipment, as also the details of all related items of work of other trades. All shop drawings are to be made in accordance with latest fire safety norms and building codes.

- 1.4.2. All drawings necessary for assembly, erection, maintenance, repair and operation of the equipment shall be furnished and different parts shall be suitably numbered for identification and ordering of spare parts.
- 1.4.3. For any amendments proposed by Engineer-in-charge in the above drawings, the Contractor shall supply fresh sets of drawings with the amendments duly incorporated, along with the drawings on which corrections were indicated.
- 1.4.4. No material or equipment may be brought at Site until the Contractor has the approved Shop drawings for that particular material or equipment.
- 1.4.5. After approval of the drawings by the Engineer-in-charge, the Contractor shall further furnish six sets of Shop drawings for the exclusive use of and retention by the Engineer-in-charge.
- 1.4.6. Approval of drawings by the Engineer-in-charge shall not relieve the Contractor of any obligation to meet all the requirements of the Contract or of the correctness of his drawings. The Engineer-in-charge's approval of specific item shall not mean the approval of the assembly of which it is a component. The Contractor shall be responsible for and is to bear the cost for all alternations of the works due to discrepancies or omission in the drawings or other particulars supplied by him, whether such drawings have been approved by the Engineer-in-charge or not.
- 1.4.7. Where the work of the Contractor has to be installed in close proximity to, or will interfere with the work of other trades, the Contractor shall assist in working out the space conditions to make a satisfactory adjustment. If so directed by the Engineer-in-charge, the Contractor shall prepare composite working drawings and sections to a suitable scale not less than 1:50, clearly showing how his work is to be installed in relation to the work of other trades. If the Contractor installs his work before coordinating with other trades, and it is cause for any interference with the work of other trades, he shall make all the necessary changes without extra cost.
- 1.4.8. All shop drawings and detail drawings will be made as per requirements of local authorities and tender drawings incorporating all latest regulations and requirements. No separate drawings will be, issued for making shop drawings.
- 1.4.9. Contractor shall submit shop drawings of Electrical & ELV services in the following manner:
  - Floor layout (where furniture & false ceiling must be inserted) indicating light fixtures, switches, small power layouts (Raw & UPS) etc. All items must be numbered and separate identification marks must be given for raw & UPS power services.

- Distribution board schedule mentioning circuit number, wire size of circuit, quantity of items, room/location of circuit being fed, connected load of circuit, DB location, incoming cable size, total connected load details, incoming & outgoing circuit breaker details etc.
- For lighting & small power, separate layouts shall be submitted.
- Conduit layout shall be submitted separately for each services.
- Mounting heights of all items must be clearly indicated in the layouts.
- Cable route & size, cable tray route & dimensions etc. between DBs & panel boards shall be marked for each services in the layout.
- Position of floor electrical panels shall be marked in the layouts.
- Main single line diagram of electrical system shall be submitted.
- Electrical earthing layout showing position of earth pits, earth conductor route
- Floor layouts indicating position of ELV items CCTV cameras, telephone outlets, data outlets, access control system etc.
- Riser diagrams of CCTV, telephone system, data system, access control system etc.
- Coordination drawing shall be prepared by the contractor. All services above & below false ceiling must be inserted in the latest false ceiling layout. The layout shall clearly indicate all dimensional details of various equipments/services. Sectional details must be prepared where all services coincide at many places.
- A coordination drawing shall be prepared for external services also by inserting electrical, HVAC, water supply, drainage in the site plan. Sectional details must be prepared to provide dimensional details.

## **2. Disruption of Progress**

- 2.1. The Contractor shall give 4 weeks, in advance, written notice to the Engineer-in-charge whenever planning or progress of the Works is likely to be delayed or disrupted due to non-issue of any drawing or order by the Engineer-in-charge. The notice shall give details of the drawings or order required explaining why and by when it is required and if any delay or disruption is likely to be suffered on that account.
- 2.2. If by reason of any failure or inability of the Engineer-in-charge to issue drawings/order/ clarifications within 4 weeks of such notice by the Contractor and the contractor suffers delay, then the Engineer-in-charge, shall record the facts for any extension of time under respective clause of the agreement. Notwithstanding anything stated above, the Contractor shall not be eligible for any financial compensation arising due to any delay.
- 2.3. No compensation whatsoever shall be payable to the contractor for any damage by rains, lightning, wind, storm, floods, tornadoes, earthquakes, or any other natural calamities during execution of work and no claim on this account will be

entertained for such damages.

### **3. Contractor's General Responsibilities**

#### **(a). Execution of works:**

The Contractor shall, subject to the provisions of the Contract, and with due care and diligence, execute and complete the Works & remedy any defects therein in accordance with the Contract. The Contractor shall provide all labour, including the supervision thereof, materials, Constructional Plant and Machineries and all other things, whether of a temporary or permanent nature, required in and for such execution, completion, maintenance and remedying of any defects, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.

If the contractor finds any discrepancy in the drawings or between the drawings, bill of quantities and specifications, he shall immediately and in writing refer the same to the Engineer - in- Charge for clarifications who shall decide the matter.

The successful contractor is bound to carry out any items of work necessary for the completion of the job even though such items are not included in the bill of quantities and rates instructions in respect of such additional items and their quantities will be decided as per the provision of the contract and issued in writing by the Engineer-in-charge.

The Contractor must bear in mind that all the work shall be carried out strictly in accordance with the specifications as given in these documents and also in compliance of the requirements of the local public authorities and to the requirements/ satisfaction/ direction of the Engineer-in-charge and no deviation of any account will be permitted.

The contractor shall have to use materials from the makes / manufacturers specified in the list of materials of approved brand and/or manufacture contained in the contract documents and as approved by the Engineer - in- Charge. Wherever different pattern/ Design/ Quality of materials with same specification/ make as specified in the contract, is available in the market, Engineer-in-Charge will approve the pattern/ Design/ Quality of the material/ item which shall be final and binding on the contractor. The contractor shall supply samples of all the materials/ fittings/ fixtures proposed to be used in the work and obtain approval of the Engineer - in- Charge. These samples shall be retained at site till completion of the work. If subsequently it is found that approved material upon testing does not meet the requirement as specified in the contract the contractor shall get approval of alternate material.

#### **(b). Samples & Approval of Materials**

- i. The Engineer-in-charge will not supply any materials required for execution of the Works under this Contract. The Contractor must, therefore, make his own arrangements for timely procurement of various materials including steel and cement.
- ii. Prior to ordering any equipment/ material/ system, the Contractor shall submit to the Engineer-in-charge the catalogues, along with samples from approved list of manufacturers. No material shall be procured without written approval of the Engineer-in-charge.
- iii. Prior approval of each and every material including steel cement, aggregate, bricks etc or any other fittings & fixtures shall be taken by the contractor from



the Engineer-in-charge. Samples for all the materials to be used in the work shall be got approved from Engineer-in-charge before their bulk procurement. Samples approved shall be kept in the sample room till the completion of the work.

- iv. All materials used on the Works shall be new and of the approved quality and make available, conforming to the relevant specifications of the contract. Prior approval shall be obtained in writing from the Engineer-in-charge for all materials proposed and when necessary, approved samples duly identified and labeled shall be deposited with the Engineer-in-charge and shall be kept in the sample room at Site. List of approved make indicates make/ manufacturer generally acceptability. Final choice of make/ manufacturer of material & models shall be with the Engineer-in-charge.

(c). Material and Equipment

- i. All material and equipment shall conform to the relevant Indian Standards and bear IS marking where ever applicable.
- ii. Where interfacing is involved, both equipments shall be mutually compatible in all respects.
- iii. Where an item of equipment, other than as specified or detailed on the drawings, is approved by Engineer-in-charge, requires any re-design of the structure, partitions, foundation, piping, wiring or any other part of the mechanical, electrical or architectural layout, all such re-design, and all new drawings and detailing required therefore, shall be prepared by the Contractor at his own expense and approval obtained from the Engineer-in-charge.
- iv. All similar equipment, materials, removable parts of similar equipment etc. shall be inter-changeable with one another.

(d). Approved makes for materials and vendor list

The contractor shall procure materials amongst the vendors as mentioned in the approved make lists enclosed with Volume IV. In case a material is not available from any of the vendors in the enclosed vendor lists, the contractor may intimate and submit details of source from where the contractor wishes to procure the material, along with complete details and the particular material shall be got approved from the Engineer - in- Charge before procurement.

(e). Safety in Construction

The contractor shall employ only such methods of construction, tools and plant as are appropriate for the type of work or as approved by Engineer-in-Charge in writing.

The contractor shall take all precautions and measures to ensure safety of works and workmen and shall be fully responsible for the same. Safety pertaining to construction works such as excavation, centering and shuttering, trenching, blasting, demolition, electric connections, scaffolds, ladders, working platforms, gangway, mixing of bituminous materials, electric and gas welding, use of hoisting and construction machinery shall be governed by the Safety code, relevant safety codes and the direction of Engineer-in-Charge

(f). Adequacy, stability and safety:

The Contractor shall be fully responsible for the adequacy, stability and safety of all site operations and methods of construction, the contractor shall ensure that all safety norms are followed as per contractual and other statutory requirements.

(g). Temporary works and arrangements:

The Contractor shall furnish to the Engineer-in-charge full particulars i.e. site location and area required including drawings, etc. of all temporary works necessary for the execution of the works and shall give adequate time to the Engineer - in- Charge for his approval. The Contractor shall be solely responsible for the stability and structural safety of all temporary works including obtaining statutory approvals and payment of statutory fees, if any. Should it be necessary to shift the temporary works to some other place during the execution of the works, the Contractor shall do so, at his own cost.

(h). Initial and Final Clearance of site for temporary works:

The Contractor shall be responsible for the clearance of the site of all scrub, debris, rubbish, etc. to be removed off site to a location to be provided by the contractor and approved by the Engineer- in-charge. However, no trees shall be removed without the prior permission of the Engineer-in-charge. The structures, services and works required to be demolished and removed shall also be removed off site to a location as mentioned above. The Contractor shall obtain necessary permissions and approvals from the local authorities for such disposals. The demolition shall include digging, excavating and removal of substructures, foundations and buried works. The cost of all this shall be included in the rates quoted by the Contractor.

The above is applicable for all site offices, labour camps, and godowns etc., which are not required after the work is completed.

(i). Storage, Cleaning and Dewatering

The Contractor shall at all the times during construction keep the Site clean and free from all debris and unwanted materials on a daily basis as per instructions of the Engineer-in-charge.

Storage of materials shall be in an organized manner and in proper compartments as directed by the Engineer - in- Charge. Storage on suspended floors shall not be permitted unless specifically approved in writing by the Engineer-in-charge for specific materials in specific locations and in approved manner. The Engineer-in-charge shall be furnished with load details, if requested, before seeking approval for storage.

Regular cleaning operations shall be undertaken to remove all dust, debris, waste materials etc. A cleaning schedule shall be maintained.

The Contractor shall make his own arrangement for storage of those materials, which can be accommodated at site. Contractor shall be fully responsible for safe custody of the same. Materials shall be considered as "Delivered at Site" only after the physical presence of materials at site are verified by the Engineer-in-charge. Storage of materials / equipment elsewhere shall not be considered as "Delivered at Site."

The Contractor shall be responsible to keep entire site free from water due to water coming from any source at any level and shall protect all materials and works from being damaged by the water from any source. Contractor shall make proper arrangements for drainage prior to use of water for curing, testing, cleaning etc.

Any expenditure incurred by the Contractor in fulfillment of his obligations under this sub-clause shall be deemed to have been included in the financial bid and subsequent contract.

**4. Watch & Ward and Lighting**

The Contractor shall throughout the execution and completion of the Works and the remedying of the site and the Works and the remedying of any defects therein have full regard for the safety of all persons entitled to be on the site and keep the site and the Works in an orderly state to avoid any accident or danger and provide safety measures, lights, guards, fencing and barricades where ever necessary or required by the Engineer-in-charge, or by any duly constituted authority, for the execution and for the protection of the Work, and/or for the safety and convenience of the public or others and take all reasonable steps to protect the environment on and off the site and to avoid damage or nuisance to person or property of the public or others resulting from pollution, noise and other causes etc. at his own cost.

**5. Care of Works**

From the commencement to the certified completion of the whole of works, the contractor shall be responsible for the care, safety and maintenance of the works executed under the contract thereof and of all temporary works. In case of any damage/ loss or injury shall happen to the works or to any part thereof or to any temporary works from any cause whatsoever save and except the expected risks, the contractor shall at his own cost repair and make good the same, so that on completion the works shall be in good order and condition in conformity to every respect with the requirements of the contract. The contractor shall also be liable for any damage to the works occasioned by him including his subcontractors in the course of any operations carried out by him for the purpose of completing any outstanding work and complying with his obligations under the Contract. In case of failure on the part of the contractor the damage/ loss/ injury shall be made good by the HITES at the risk and cost of the contractor.

**6. Force Majeure:**

Any failure or delay in the performance by either party hereto of its obligations under his Contract shall not constitute a breach thereof or give rise to any claims for damages if, and to the extent that it is caused by occurrences beyond the control of the party affected, namely, acts of God, floods, explosions, wars, riots, storms, earthquakes, insurrection, epidemic or other natural disasters. The party so affected shall continue to take all actions reasonably within its power to comply as far as possible with its obligations under this Contract. The affected party shall promptly notify the other party after the occurrence of the relevant event and shall use every reasonable effort to minimize the effects of such event and act in all good faith with due care and diligence.

**7. Contractor's Superintendence**

- (a). The contractor shall be solely responsible for the means, methods, techniques sequence and procedure of construction. The Contractor shall be responsible to see the completed work complies accurately with the Contract requirements. The Contractor shall provide all necessary superintendence during the execution of the Works as per contractual provisions.

(b). Contractor's Representative for Execution & Coordination of Works

The Contractor shall ensure his presence at site all times during working hours throughout the

course of the Contract or depute a Competent representative who shall be empowered to receive instructions from the Engineer - in- Charge in respect of all matters likely to arise in connection with the execution & coordination of the works at the site. Contractor's Authorized Representative shall take joint measurements and sign the measurement books / bills. Any direction, explanations, instructions or notices given by the Engineer-in-charge to such representative shall be held to be given to the Contractor. In case of absence of said Representative other alternative representative should also be mentioned having same responsibilities.

**The contractor should submit curriculum vitae (CV) of the key personnel proposed to be deployed at site as per Schedule "F" of GCC for supervision and execution of work.**

**The contractor under normal circumstances would not be allowed to replace the key personnel during the execution of the contract.** However, for any reasons, due to unavoidable circumstances if it becomes necessary in the interest of the project to replace any one / all the above key personnel the contractor must submit the CV of the new personnel (having qualifications and experience as per requirement of the contract) to Engineer-in-Charge for their approval.

A list of all technical and key personal staffs must be submitted to the Engineer- in-Charge with their area of work/ responsibility with verified signature and the link persons to receive the instructions at site (in case the main person was not found at site) during the inspection by representative of Engineer-in-charge. Any staff of contractor found incapable/unsuitable to execute the assigned work shall be replaced by the Contractor if desired by the Engineer-in-Charge.

(c). Contractor's Employees

The Contractor shall employ competent Engineering staff/ technical assistants/ technicians who are qualified, skilled and experienced in their respective trades, to ensure proper supervision, quality & output of the work they are required to supervise. No child labour shall be employed on the work. All the skilled semi-skilled and unskilled labour shall work under the sole guidance of the contractor/his representative.

(d). Removal of Contractor's Employees

The Contractor shall on the direction of the Engineer-in-Charge immediately remove from the work any person employed thereon by him who may, in the opinion of the Engineer-in-Charge has misconducted himself and such person shall not be again employed on the works without the permission of the Engineer-in- charge.

(e). Unauthorized Persons

No unauthorized persons shall be allowed on the site. The contractor shall provide complete security arrangement for the campus during construction to avoid trespassing. The Contractor shall ensure all such persons are kept out and shall take steps to prevent trespassing. However the contractor will make sure to provide free access at any time for Engineer-in-charge to the site and other working places.

**8. Compliance with Statutes, Regulations, Etc.**

The contractor shall conform to the provisions of all statutes, ordinance, laws, acts of the legislature relating to the works, and to the regulations and by-laws of any local or other duly

constituted authority and of any water, electric supply and other companies and/or authorities with whose systems the structure is proposed to be connected. The Contractor shall keep the HITES indemnified against all fines or penalties or liability of every kind for breach of any such statutory ordinance, law act of the legislation, regulations, and byelaws as aforesaid.

The contractor shall before making any variations from the drawings or specifications that may be necessitated by such regulations, give to the Engineer- in-charge written notice, specifying the variation proposed to be made and the reasons for making it and apply for instructions thereon. The contractor will not execute any work without written permission from the Engineer-in- charge

The contractor shall bring to the attention of the Engineer-in-charge any specific requirement of the local authorities or any notice required for execution by virtue of such acts, regulations or bye-laws of such authority, or public office. All fees that may be chargeable in respect of these works shall be reimbursed by the HITES on production of authorised receipts.

#### **9. Setting out**

The contractor shall be responsible for the true and proper setting-out of the Works in relation to original points, lines and levels or reference issued by Engineer-in-charge in drawing or in writing and for the correctness, subject as above mentioned, of the position, levels, dimensions and alignment of all parts of works and for the provision of all necessary instruments, appliances and labour in connection therewith. If, at any time during the progress of the works, and during defects liability period, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required to do by the Engineer-in-charge and/ or his authorised representative shall at his own cost, rectify such error to the satisfaction of the Engineer-in-charge. The checking of any setting out or of any line or level by the Engineer-in-charge not in any way relieve the Contractor of his responsibility for the correctness thereof. The Contractor shall carefully protect and preserve the benchmarks; sight-rails, pegs and other things used in setting-out the Works. Any rectification works required should be done by the Contractor at his own cost.

#### **10. Quality of Materials, Workmanship and Test**

- (a). All the materials used in the work shall be subjected to the mandatory tests as prescribed in the specifications detailed in Schedule F of the General Conditions of Contract and other specifications referred to in the contract and workmanship shall be the best of the respective kinds described in the Contract and in accordance with the Engineer-in- charge's instructions and shall be subjected from time to time to such tests as the Engineer-in-charge may direct at the place of manufacture or fabrication or on the Site or at an approved testing laboratory. The source of supply and/ or manufacturing within/ outside India may be inspected by the Engineer-in-charge or any representative as nominated by the HITES. The expenditure on this account is deemed to be included in the rate quoted.

The contractor shall upon the instruction of the Engineer-in-charge's representative furnish him with documentation to prove that the materials & goods comply with the requirements of contract and for requirement stated above. The Engineer-in- charge may issue instruction in regard to removal of material from site or any work, if these are not in accordance with the contract. The contractor shall provide such assistance, instruments, machinery, labour and materials as are required for examining, measuring, sampling, testing of material or part of work.

The Engineer-in-charge may carry out **Third Party Quality Assurance /Audit by an independent agency/ individual/firm/institute** at any time. The agency will be permitted and offered all support related to site inspection by the Contractor. Observations/ discrepancies noticed by third party quality assurance/audit shall be attended by the contractor at his own cost.

In addition to the above, technical inspection team of Client shall conduct site inspection during the progress of work. The observations/modifications/repairs instructed by Client shall be done by the contractor at his own cost.

(b). Samples

- i) All samples of materials and/or items of works in adequate numbers, sizes, shades & pattern as per specifications shall be supplied free of charge by the contractor without any extra charge. All other expenditure required to be incurred like conveyance for taking the samples for testing at the laboratory, packing, etc, shall be borne by the contractor. If the test results do not conform to the specifications and standards laid down, the materials shall be rejected, the contractor shall remove such materials from site. The laboratory for testing of samples shall be decided by the Engineer – in charge, whose decision shall be final and binding.
- ii) Contractor shall submit Samples to the Engineer-in-charge for approval. If certain items proposed to be used are of such nature that samples cannot be presented or prepared at the site, detailed literature/ test certificate of the same shall be provided to the satisfaction of the Engineer-in-charge. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalogue numbers and the use for which intended and otherwise as the Engineer-in-charge may require to review the submittals for the limited purposes required by paragraph (d) below. The numbers of each sample to be submitted will be as specified in the Specifications, or as shall be specified by the Engineer-in-charge.
- iii) Submittal Procedures
  1. Before submitting each Sample, Contractor shall have determined and verified all materials with respect to intended use, fabrication, shipping, handling, storage, assembling and installation pertaining to the performance of the Work and All information relative to Contractor's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programmes incident thereto.
  2. Each submittal will bear a specific written indication that Contractor has satisfied Contractor's obligation under the Contract Documents with respect to Contractor's review and approval of that submittal.
  3. At the time of each submission, contractor shall give the Engineer-in-charge specific written notice of such variations, if any; that the sample submitted may have from the requirements of the contract document. Such notice shall be separate from the submittal and in addition shall cause a specific notation to be made on each sample submitted for review and

approval of each such variation

iv) Review and Approval:

1. Sample shall be reviewed and approved only to determine if the items covered by the submittals will, after installation or incorporation in the work, conform to the information given in the contract documents and be compatible with the design concept of the completed project functioning as a whole as indicated by the contract documents, drawings.
2. Review and approval will not extend to means, methods, techniques, sequences or procedures of construction. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. Contractor shall make corrections required by Engineer-in-charge and shall submit as required new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for and by the Engineer-in-charge on previous submittals.
3. Above referred review and approval of Samples shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Document unless Contractor has in writing called the Engineer-in-charge attention to each such variation at the time of submission as specified above and received written approval of each such variation by specific written notation thereof incorporated in or accompanying the Sample approval; nor will any approval by Engineer-in-charge relieve Contractor from responsibility for complying with the requirements of contract.
4. Only when the samples are approved in writing by the Engineer-in-charge, the contractor shall proceed with the procurement and installation of the particular material/ equipment. The approved samples shall be signed by the Engineer-in-charge for identification and shall be kept on record at site office until the completion and acceptance of the work and shall be available at the site for inspection / comparison at any time. The contractor shall keep with him a duplicate of such samples to enable him to process the matter.
5. For items of works where the samples are to be made at the site, the same procedure shall be followed. All such samples shall be prepared at a place where it can be left undisturbed until the completion of the project.
6. The Engineer-in-charge shall communicate his comments/ approval to the Contractor to the samples at his earliest convenience. Any delay that might occur in approving of the samples for reasons of its not meeting with the specifications or other discrepancies, inadequacy in furnishing samples of appropriate quality from various manufacturers and such other aspects causing delay on the approval of the materials/ equipment's etc., shall be ascribable to the account of the contractor. In this respect the decision of the Engineer-in-charge shall be the final.

v) On delivery of the supplies of materials/ equipments for permanent works at

the site, the contractor shall specifically arrange to get the supply inspected by the Engineer-in-charge and compared with the approved sample and his specific approval obtained before using the same in the work.

vi) Cost of Tests

The cost of making any test shall be borne by the Contractor as intended by or provided for the Contract or as found necessary by the Engineer-in-charge for ascertaining whether the quality of materials intended to be used by the Contractor in the Works is acceptable, whether any finished or partially finished work is appropriate for the purposes for which it was intended to fulfill.

vii) Testing facilities

The contractor shall carryout all the mandatory tests at his own cost and shall maintain records of testing & checks of material, in formats, checklists etc. to be given by Engineer-in-charge. All such records shall be maintained jointly by the contractor and Engineer-in-charge these shall remain under the custody of the Engineer-in-charge.

Some of the mandatory tests for each item of work and /or materials shall be carried out in approved outside laboratory as directed by the Engineer-in-charge. The Contractor shall bear the entire cost of testing charges for samples of items of work and /or materials and also the other expenditure towards making samples, packaging, and transport etc.

The materials brought at site of work shall not be used in the work before getting satisfactory test result as per relevant mandatory tests, detailed in the relevant CPWD specifications and BIS codes.

**11. Absence of Specifications**

If the nomenclature of any item does not contain particulars of materials and works which are necessary for its proper execution, all such materials shall be supplied and item shall be executed by the Contractor without extra charge over the quoted rates and If the Contractor requires any information, he shall request in writing well in advance to commencement of the particular work to the Engineer-in-charge who will clarify the issue within a reasonable time.

**12. Obtaining Information's related to Execution of work**

No claim by the Contractor for additional payment will be entertained which in consequent upon failure on his part to obtain correct information as to any matter affecting the execution of the works, nor will any misunderstandings or the obtaining of incorrect information or the failure to obtain information relieve him from any risks or from the entire responsibility for the fulfillment of the contract.

**13. Access for Inspection**

Persons nominated by Engineer-in-charge shall at all reasonable times have free access to work and/ or to the workshops, factories or other places where materials are lying or from which they are being obtained and the Contractor shall extend necessary service to Engineer-in-charge and their representatives every facility necessary for checking measurements, inspection and examination and test of the materials and workmanship.

**14. Examination of Work before covering up**

(a) No part of the works shall be covered up or put out of view without the written



approval of the Engineer-in-charge and the contractor shall give due notice to the Engineer-in-charge whenever any such work or foundation is or ready or about to be ready for examination and the Engineer-in-charge shall, examine and measure any work before it is covered up or put out of view and to examine foundations before further work is placed thereon.

(b) Uncovering and making openings

The contractor shall uncover any part or parts of the works or make openings in or through the same as the Engineer-in-charge may direct from time to time and shall reinstate and make good such part or parts to the satisfaction of the Engineer-in-charge at his own cost.

**15. Assignment**

The contractor shall not, without the prior consent of the Engineer-in-charge assign the Contract or any part thereof, or any benefit or interest therein or there under, otherwise than by:

- A change in favour of the Contractor's bankers of any money due or to become due under the Contract, or
- Assignment to the Contractor's insurers (in case where the insurers have discharged the Contractor's loss or liability) of the Contractor's right to obtain relief against any other party liable.

**The Contractor shall not sub-contract the whole of the Works. Also, the Contractor shall not subcontract any part of the works without the prior consent of the Engineer-in-charge, except where otherwise provided under the Contract.** Any such consent shall not relieve the Contractor from any liability or obligation under the Contract and he shall be fully responsible for the quality of the work executed and acts, omission and commission, defaults and neglects of any Subcontractor, his agents, servants or workmen as if these were the acts, defaults or neglects of the Contractor, his agents, servants or workmen. Such Permission may be granted only for the specialized work etc and the decision of Engineer-in-charge shall be final.

**16. Claims**

The contractor shall submit to the Engineer-in-charge monthly statement giving full details of claims for any additional payments for extra or additional / substituted work ordered by the Engineer-in-charge which he has executed during the preceding month, to which the contractor may consider himself entitled supported with analysis of rates being claimed failing which the contractor shall be deemed to have waived his right. The Engineer-in-charge may authorize consideration of such claims on merits on production of sought out documents/ vouchers etc.

**17. (a) Inspection & Testing during manufacture**

The Engineer-in-charge shall be entitled to inspect, examine and test during manufacture the materials and workmanship and check the progress of manufacture of all fabrication materials to be supplied under the contract on the contractor's premises during working hours, and if part of the said materials is being manufactured on other premises, the contractor shall obtain for the Engineer-in-charge permission to inspect the same at such premises. This inspection, examination or testing shall not relieve the contractor from any obligation under the contract.

(b) Dates for Inspection & Testing

The dates of Inspection & Testing, after receipt of written request by the Contractor, shall be mutually agreed by the Engineer-in-charge and the contractor.

(c) Facilities for Testing at Manufacturer's Works

Where the contract provides for tests on the premises of the contractor or of any sub-contractor the contractor shall provide such assistance, labour, materials, electricity, fuel, stores, apparatus and instruments as may be required and as may be reasonably demanded to carry out such tests.

(d) Rejection

If as a result of such inspection, examination or test of the works (other than a Test on Completion the Engineer-in-charge shall decide that such material is defective or not in accordance with the contract he shall notify the contractor accordingly stating in writing his observations and reasons thereof. The contractor shall with due diligence make good the defect and ensures that the material complies with the Contract. Thereafter, if required by the Engineer-in-charge, the tests shall be repeated under the same terms and conditions till satisfactory results are made available.

(e) Delivery of Materials and Equipment

The contractor shall be responsible for all materials and equipment brought at site for the purposes of the contract. Unless the Engineer-in-charge directs, no material shall be brought to the site which is not required for execution of the work.

(f) Inspection & Testing and Re-inspection

All deficiencies revealed by testing and inspection shall be rectified by the contractor at his own expense and to the satisfaction and approval of the Engineer-in-charge. Rectified components shall be subject to re-testing till desired results are obtained.

(g) Inspection Reports

The contractor shall provide the Engineer - in- Charge with five copies of reports of all inspection and tests.

**18. Physical and Virtual Completion of Work**

When the whole of the Work is physically and virtually complete and has satisfactorily passed required tests that may be prescribed under the Contract:-

- a) The contractor shall give a written notice to this effect within 10 days of completion along with an undertaking to rectify any defects that may be found during inspection. The Engineer - in- Charge shall jointly inspect the work with the contractor within 30 days of receipt of such notice.
- b) The Engineer-in-charge shall inspect the works completed to see if they are in such a condition so as to be put to its proper or other intended final use and / or occupied without any short comings and no major or minor items of works are remaining which in the opinion of the Engineer-in-charge will cause undue difficulties in satisfactory use/ occupation of the works.

## **19. Provisional Acceptance and Certificate of completion**

### **19.1. Provisional Acceptance and Issue of Certificate of Physical Completion of work**

The work shall be deemed to have been physically completed and provisionally accepted after fulfillment of all the following by the Contractor.

- i) Physical completion of all works and obtaining all required approvals from the statutory authorities as required for occupation and use of the works and handing over such certificates to the Engineer-in-charge
- ii) Submitting As-Built Drawings, Catalogues, Brochures, and Data Sheets, manuals in the form as directed by Engineer in Charge
- iii) Issue of Certificate of Physical Completion by the Engineer-in-charge as specified in clause 8 of GCC.

### **19.2. Certificate of Final Completion**

The contract shall not be considered as completed until a Certificate of Final Completion has been issued by the Engineer-in-charge stating that the Works have been completed to his satisfaction and / rectifying of defects have been satisfactorily completed.

The composite work shall be treated as complete when all the components of the work are complete. The Certificate for Final Completion of the Composite work shall be recorded by the Engineer-in-charge after obtaining/ recording of completion certificate of all the components.

The Engineer-in-charge shall give the Certificate for Final Completion ON FULFILMENT OF FOLLOWING:

- Contractor has rectified all defects noticed by the Engineer –in –charge and as specified in the Provisional completion certificate.
- Contractor shall have removed from the premises on which the work is executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works
- Cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is executed or of which he may have had possession for the purpose of the execution.

Provided always that the issue of the Certificate of Final Completion shall be a condition precedent to payment or return to the Contractor the security deposit and/ or Performance security in accordance with the conditions set out in the contract.

- 20.** The contractor shall give performance test of the entire work as per standards specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the tests.
- 21.** The contractor shall maintain in perfect condition all works executed till the completion of the entire work allotted to him. Where phased handing over of completed portion of the work is required by the Engineer – in – charge, the provisions mentioned for completion of entire work will apply to each phase.

## **22. Defect after completion (a).**

### **General**

Any defect, shrinkage, settlement or other faults that may appear within the “Defects Liability Period” which in the opinion of the Engineer-in-charge are due to materials or workmanship not in accordance with the contract, shall be rectified as per the directions in writing of the Engineer-in-charge to the Authorized representative of the contractor within such reasonable time as shall be specified therein by the contractor, at his own cost. In case of default, the Engineer-in-charge may employ any person’s to amend and make good such defects, shrinkage, settlements or other faults and all expenses consequent thereon or incidental thereto shall be borne by the contractor. Such damages, losses and expenses shall be recoverable from the bills due or may be deducted from any money due to or that may become due to the contractor. If no amount is available to the credit of contractor, the Engineer-in-charge may recover the amount from the dues of the contractor from any other contract made by the Contractor with the Engineer-in-charge with any government/department.

### **(b). Execution of work of repair etc.**

Any defects, shrinkage, settlement or other faults which may appear or be noticed within the defect liability period, and arising in the opinion of the Engineer-in-charge from materials or workmanship not having in accordance with the contract, shall upon the direction in writing of the Engineer-in-charge’s representative and within such reasonable time as shall be specified therein and without any delay, be amended and made good or replaced by the contractor at his own cost.

### **(c). Cost of Execution of Work of Repair, Etc.**

All such works shall be carried out by the Contractor at his own expense if the necessity thereof shall, in the opinion of the Engineer-in-charge, be due to the use of materials or workmanship not in accordance with the Contract, or due to neglect or failure on the part of the Contractor to comply with any obligation, expressed or implied, on the Contractor’s part under the Contract

### **(d). Contractor’s personnel to be at site**

During the defects liability period the contractor shall depute at least one of his authorized representative at site along with required tradesmen to attend the defects to the satisfaction of Engineer-in-charge.

## **23. Works by Other Agencies**

The Engineer-in-charge reserves the right to use premises and any portion of the site for the execution of any work not included in this contract which it may desire to have carried out by other persons simultaneously, and the contractor shall allow the reasonable facilities for the execution of such work, but shall not be required to provide any plant or material for the execution of such work except by special arrangement with the other agency. Such work shall be carried out in a manner so as not to impede the progress of the works included in the contract, the contractor shall not be responsible for any damage or delay which may happen to or occasioned by such work.

The contractor shall co-operate with other agencies working in the same project, and coordinate his plans and time schedules so that there will be no interference. The Contractor

shall forward to the Engineer-in-charge all correspondences and drawings exchanged. Failure to check plans for conditions will render the Contractor responsible for bearing the cost of any subsequent changes found necessary or damages done.

The Engineer-in-charge shall not entertain any claim on account of the Contractor affording necessary facilities to execute the work simultaneously with other agencies executing the works for the same project.

**24. Dues not paid by the Contractor**

The contractor shall pay all dues or fees to Statutory authorities and Electric and Water supply authorities etc. within due period and indemnify the HITES and the Engineer-in-charge from any claims or compensations or penalties or damages arising out of non-payment of any such dues or fees. However, in case some dues or fees are not paid by contractor and or claims for compensations or penalties etc. are raised by the Statutory authorities, the HITES may deposit the required amount or any or all of the above and recover or deduct the same from any money payable to the contractor by the HITES or any other means available to the HITES such as bank guarantee.

**25. Urgent Repairs**

If, by reason of any accident, or failure, or other event occurring to or in connection with the works, or any part thereof, either during the execution of the works, or during period of Defects Liability any remedial or other work or repair, shall, in the opinion of the Engineer-in-charge be urgently necessary for the safety of the Works and the Contractor is unable or unwilling to do such work or repair despite notice, the Engineer-in-charge may employ and pay other persons to carry out such work or repair as the case may be and may consider necessary. If the work or repair so done by the other agency is the work which, in the opinion of the Engineer-in-charge the Contractor was liable to do at his own expense under the Contract, all expenses incurred by Other agency in so doing shall be recoverable from the Contractor by the Engineer-in-charge, or shall be deducted by the Engineer-in-charge from any monies due or which may become due to Contractor.

**26. Boreholes & Exploratory Excavation**

If, at any time during the execution of the Works, the Engineer-in-charge shall require the Contractor to make boreholes or to carry out exploratory excavation, such requirement shall be ordered in writing and shall be deemed to be an additional ordered under the provisions unless a provisional sum in respect of such anticipated work shall have been included in the schedule of items.

**27. Fossils, Etc.**

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site of the works shall be the property of the Government.

**28. Plant Temporary Works &**

**Materials** (a.) Plant, etc. Exclusive use  
for the Works

All Constructional Plant, Temporary Works and materials provided by the Contractor shall,

when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof except for the purpose of moving it from one part of the Site to another, without the consent, in writing of the Engineer-in-charge, which shall not be unreasonably withheld.

(b.) Removal of Plant etc.

Upon completion of the Works, the Contractor shall remove from the Site all the said Constructional Plant and Temporary Works remaining thereon and any unused materials provided by the Contractor, within 10 days of obtaining the completion certificate/ Virtual completion of the work.

## **29. Reports by Contractor**

(a.) The Contractor shall submit **detailed programme schedule in MS Project or in any other software as desired by EIC**, indicating the duration of each item of the work, for the complete work within 15 days of award of work or as per Clause 5 of the GCC, whichever is earlier, for approval by the Engineer - in- Charge. On the basis of approved programme schedule contractor shall submit Progress Charts by the 5<sup>th</sup> day of every month. Soft copy of MSP shall be supplied whenever demanded by the Engineer-in-charge. It shall be noted that the payment for the work will be released based on the target date set in the MS project.

**(b.) In case progress as scheduled in the construction programme is not achieved on the target date for stage payment due to occurrence of deviation in items or delay in execution, the programme schedule may be revised in advance as instructed by Engineer in charge and as per clause 5 of GCC. The revision in programme schedule shall be intimated to HITES prior to the target date otherwise the payment will be released alongwith the next stage of payment only.**

(c.) The Contractor shall submit Monthly Progress Report in triplicate in format approved by Engineer-in-charge. Failure to submit reports may result in holding up or delay in Payment of bills.

(d.) **Monthly Progress Photographs:-** The Contractor shall arrange at his own cost to maintain a progress record of the works by taking postcard size colour photographs (preferably digitized photographs) 6 Nos. or more per month per block as directed by the Engineer-in-charge during the construction stages and after completion shall supply three sets at no extra cost. The Contractor will be required to submit monthly reports on the progress of his work as per the format approved by the Engineer-in-charge.

(e.) The Contractor shall prepare Weekly Reports of planned and actual progress of work and subsequent week's scheduled work. These will also include material procurement status. These reports shall be submitted to the Engineer-in-charge & shall be reviewed in Weekly Co-ordination Meetings.

(f.) The Contractor shall file daily category-wise labour report to the Engineer-in- charge. The report shall indicate scheduled requirement against actual strength.

(g.) The contractor shall maintain daily weather record. Daily maximum and minimum temperature and corresponding, humidity shall be recorded and charted. Rainy days shall be recorded when the rain lasting more than one hour hampers the work. Any other inclemency in weather shall be recorded. The records shall be regularly shown to the Engineer-in-charge

and his signature obtained.

- 30.** Every care has been made to include all the aspects/ terms and condition in these documents. However, during execution, if any issue arises, which has not been included in these documents then standard norms / rules & regulations/ terms & conditions as prevalent in CPWD shall be followed which shall be binding on both the parties.

### **31. Audit and Technical Examination**

The HITES/ Engineer-In-Charge/ Client shall have the right to cause Audit and Technical Examination of the works and the final bills of the contractor including all supporting vouchers, abstracts, etc. to be made as per payments of the final bill and if as a result of such Audit and Technical Examination the sum is found to have been overpaid in respect of any work done by the contractor under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over payment and it shall be lawful for the Engineer-in-charge to recover the same from the Security Deposit or Performance Security of the contractor or from any dues payable to the contractor. If it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid.

In the case of any audit examination and recovery consequent on the same the contractor shall be given an opportunity to explain his case and the decision of the Engineer-in-charge shall be final. Payment on this account will be recovered from the contractor.

In the case of Technical Audit, consequent upon which there is a recovery from the contractor, recovery shall be made with orders of the Engineer-in-charge whose decision shall be final. All action under this clause shall be initiated and intimated to the contractor within the period of twelve months from the date of final completion.

### **32. Operations and Maintenance Manual**

The Contractor shall provide and submit to the Engineer-in-charge with three copies of the Operation and Maintenance Instruction Manuals, as may be applicable, for the works in a durable plastic case. The arrangement of these manuals shall be as follows:

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| SECTION B: | Full set of Indexed Photographs showing all salient features of the Project.   |
| SECTION C: | Description and details of materials, items and fittings and fixtures used for the project along with Catalogues & Addresses of the Suppliers including operation & maintenance Manuals etc. |
| SECTION D: | Planned maintenance instructions and dates for order replacements.   |
| SECTION E: | List of recommended Spare parts of consumables.  |
| SECTION F: | List of “As-Built” Drawings (related to Working/ Shop drawings)  |

Until the Record Drawings, prints, transparencies and manuals referred to above have been received and approved by the Engineer-in-charge, Contract shall not be considered as complete and payment of monies will be withheld until such drawings, etc. have been submitted to and approved by the Engineer-in-charge. The cost of providing such records including proper submission thereof is deemed to be included in the Contract Sum quoted by the Contractor.

### **33. Miscellaneous**

#### **(a.) Safety Regulations**

Contractor shall be fully responsible for the safety of his Employees/ Visitors / Contract Labour/ Sub-Contractors Labour. The Contractor shall provide first-aid box readily available at site. The Contractor shall provide all safety measures as per labour safety rules applicable.

#### **(b.) Labour Laws**

The Contractor shall strictly adhere to all labour laws prevailing in the region. The contractor shall make timely payment of wages of his labour and the wages paid to the labour shall be equal to or more than the minimum wage prevailing at the time of payment. The Contractor shall comply with all applicable labour legislation, maintain labour records including payment made to the workers and obtain license for engaging workers for the work as required under the labour laws.

#### **(c.) By-Laws of Statutory Authorities**

The Contractor and his labour shall not violate municipal /sanitation /health or any other byelaws.

#### **(d.) Tax Deduction at Source**

All Taxes and surcharge as applicable on date shall be deducted from the amount due to the Contractor towards the value of the work done. TDS certificate thereof shall be issued to the Contractor.

#### **(e.) General Lighting and Securities**

The Contractor shall, throughout the execution, completion and remedying of the defects, provide and maintain at his own cost all lights, guards, fencing, barricading (up to 3 ms. Height approx.), warning signs and watch post, when and where necessary or directed by the Engineer-in-charge or by any duly constituted authority for the protection, safety and convenience of the workers/ public / or others.

#### **(f.) Delay in starting the work**

No compensation shall be allowed for any delay caused in the starting of the work on account of acquisition of land, encroachment or in the case of clearance of works, on account of any delay in according sanction to estimates in issue of drawings, decisions etc. However, the extension of time shall be granted as per relevant conditions of Contract.

#### **(g.) Site instruction book**

For the purpose of quick communication between Engineer-in- charge and the Contractor or his representative, site instruction book shall be maintained at site as described below:

Any communication, relating the works may be conveyed through instructions in the site



instruction book. Such a communication from Engineer-in-charge to the Contractor shall be deemed to have been adequately served in terms of the contract once the entries are made and signed by the authorized representative of the contractor. For this purpose the contractor should authorize one of his employees on the site itself. Site instruction book shall have machine numbered pages and shall be carefully maintained and remain under custody of Engineer-in-charge. The contractor can also avail of the site instructions book for urgent communication with Engineer-in-charge. Any instruction which Engineer-in-charge may like to issue to the Contractor may be recorded by the Engineer-in-charge in site instruction book.

(h.) **Signage**

The Contractor shall provide at his own cost, different sign boards at directed location having size as instructed by HITES / Client indicating name of the project, with name of the Contractor and the HITES with addresses, Client cost of the Project, date of start & completion, as approved by Engineer-In-Charge.

(i.) The contractor shall have adequate generators of required capacity as per site requirement as standby arrangement.

(j.) The temporary connection for electric line and water line from local authorities shall be taken by the contractor who will bear the expenditures in this account.

(k.) No idling charges or compensation shall be paid for idling of the contractor's labour, staff or P&M etc. on any ground or due to any reason whatsoever.

(l.) The Contractor shall mobilize and employ sufficient resources for completion of all the works within the stipulated time period as per agreement and as indicated in the approved construction schedule. No additional payment will be made to the contractor for any multiple shift work or other incentive methods contemplated by him in his work schedule even though the time schedule is approved by Engineer-in-charge.

**34. Co-ordination Meetings**

The Contractor shall be required to attend co-ordination meetings with the Engineer-in-charge/ HITES/Client and the other Contractors during the period of Contract as intimated by the Engineer-in-charge/ HITES/Client. All costs incidental to such interaction shall be to the Contractor's account and no claim will be entertained by the Engineer-in-charge/ HITES on this account.

**35. Site Management:**

**35.1. Contractor's Working Area**

Suitable working space will be provided by the Engineer-in-charge/HITES to the Contractor as per site conditions and availability. The Contractor may have to carry out some cutting/filling work for making this area workable. The cost of all such Works shall be deemed to have been included in the contract price quoted for the Works and no payment shall be made on this account.

Before commencement of the work, the Contractor shall obtain approval of the Engineer-in-charge the location of cement godown, steel stacking and fabrication yard, site office and shall from time to time take instructions from the Engineer – in- charge regarding collection and stacking of materials at the site.

No excavated earth or building material shall be stacked on areas where other buildings,

roads, services or compound wall or any other structure are to be constructed.

#### 35.2. Contractor's Temporary Structures

The Contractor may, at his own expense and subject to the approval of the Engineer-in-charge/ HITES and statutory authorities, as required, construct temporary structures for its site office, stores; Workshop in the working area allocated to him as above and remove the same on completion of Works. The Contractor shall furnish such details of his Temporary Works as may be called for by the Engineer-in-charge/HITES and the Contractor shall satisfy the Engineer-in-charge as to their structural safety. Temporary structures, found unsafe or inefficient shall be removed and replaced in a satisfactory manner.

#### 35.3. Contractor's Labour Camp

The Contractor shall make arrangements at his own expense for labour camp/ accommodation for labour and staff to be employed for execution of the work and their conveyance to Site. Labour camp shall not be allowed to construct within the proposed site. No workers/ staff shall be allowed to stay within the Site except with the specific approval of the Engineer-in-charge/ HITES. Proper ID Cards shall be got approved/authorized by the contractor from the Engineer-in-charge/ HITES to authorise the Contractor's staff and workers to enter the Site.

#### 35.4. Water Supply & Power Supply

The Contractor shall make his own arrangement for water supply at Site for drinking as well as construction purposes & Power Supply at his own cost. Non-availability of power supply and /or water from whatever source shall not entail any additional claims or extension of Contract period in this account.

#### 35.5. Infrastructure for Project Coordination & Site office

The contractor shall, within 30 days of issue of letter of acceptance, at his own cost, provide a reasonably furnished air conditioned site office having, a sample room, A.C meeting room, staff rooms along with toilets & pantry with file storage facility, brand new computer (1 No.) with Auto Cad, Broad band (1 No.) and printer (A3-1 No.) with their consumables, a telephone, licensed version MS Project software. Electricity & drinking water shall also be provided by the contractor free of cost for such period.

#### 35.6. Working Hours

The contractor shall be equipped to work 24x7 in multiple shifts, as per the direction of Engineer – in- Charge to achieve the targeted coimpletion period.

#### 35.7. Temporary Barricading

The Contractor shall at his own expense, erect and maintain in good condition temporary barricades all around the working area as per directions of the Engineer-in- charge, so that no disturbance is caused to the functioning of existing facilities of Client in that building.

#### 35.8. The contractor shall make, till completion of the project arrangements for/of:

- i. Proper pumping for removing water / debris etc from the site.
  - ii. Proper security, safety, transportation, manpower, lighting arrangement for execution of works at night.
  - iii. Plant and others machinery, tools and tackles required for timely execution of work.
  - iv. Proper barricading around site so that surrounding area is made free from disturbances. The specifications of barricading shall be got approved by Engineer- in-charge. A signage board shall be placed in the External face of barricading also as instructed by Engineer in charge.
  - v. Diversion of services if any with the approval of Engineer-in- charge.
- 35.9. Restriction in work areas.
- (a). The contractor must see the site of the work, its approaches carefully before tendering, No claim of any sort shall be entertained on account of any site conditions. If any approach from main road is required or existing approach is to be improved and maintained, for cartage and materials by the contractor, the same shall be done by the contractor his own cost.
  - (b). Some restrictions may be imposed by the HITES's authorities or its security staff etc., on the working and/or movement of labour, materials etc. The contractor shall follow all such restrictions / instructions and nothing shall be payable on this account.
  - (c). In case the contractor is not permitted to erect the huts for labour at the site of work, the contractor will have to make his own arrangement to provide such accommodation elsewhere and nothing extra shall be paid on this account.
  - (d). The contractor shall obtain approval of the HITES to erect the hutments for labour etc. at the site of work; denial of approval shall not affect the construction activities.
  - (e). The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards such as day and night boards and providing barriers. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrance shall be caused to traffic during the execution of the work as the site is located within the premises of a running Institute.

### **36. Compliance of Statutory Obligations and obtaining Approvals/ Completion Certificates:**

The Contractor shall comply all the statutory obligations and obtain all required clearances to implement the project without any financial repercussions to Engineer-in-charge and ensure all follow up actions with the local authorities in this respect for smooth completion of the project. The Contractor shall obtain all necessary approvals (**required as per the scope of work**) from Municipal bodies and other local bodies including, Water supply agencies, Electric Supply and inspectorate agencies, Police and Security Agencies, Chief Controller of Explosives, Fire Department, Civil Aviation Department, in accordance to prevailing rules, Building Bye-Laws etc., as the case may be with related to Construction/

Completion. The responsibility of the Contractor shall include obtaining approval from local electrical inspector, water & Sewer line connection, permission for bore well and for temporary structures etc. from local Authorities.

The contractor shall assist the Engineer-in-charge to obtain all NOC, completion & Occupancy certificates (**required as per the scope of work**) from respective local bodies and other statutory authorities.

Contractor shall organize all inspections of concerned authorities & obtain the NOC's within the time for completion. The Engineer-in-charge may, at the written request of the Contractor, assist him in obtaining the approvals from relevant authorities. However any such request by the Contractor shall not bind the Engineer-in-charge / HITES in any manner.

All expenditure on these accounts will be borne by the contractor. However the fees paid by the contractor to these statutory authorities only for obtaining the required statutory approvals shall be reimbursed by the HITES/ Client on submission of valid payment receipts from these statutory authorities.

The contractor is required to submit the relevant drawings like completion Drawings and any other statutory documentary requirements of local bodies in copies as per requirement to obtain the above etc. at their own cost.

### **37. Rates: -**

- 37.1. The quoted rates shall be for complete items of work i.e. inclusive of material, labour, plant and machinery, tools and tackles, batching plant etc. including water & electricity, overhead charges, all taxes, duties, statutory charges/ levies applicable from time to time and others as specified (excluding GST) etc, incidental works and all other charges for items contingent to the work, such as, packing, forwarding, insurance, freight and delivery at Site, watch and ward of all materials & successful installation, testing & commissioning at site etc.
- 37.2. The rate of all items of work, shall, unless clearly specified otherwise include cost of all labour, materials and all other inputs required in the execution of the item, excluding GST and any other levies.
- 37.3. Unless otherwise specified in the schedule of quantities, the rate tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depth of the building and nothing extra shall be payable to him on any account.
- 37.4. The rates for items of work wherein cement is used are inclusive of cost for curing.
- 37.5. Royalty at the prevalent rates whenever payable shall have to be borne by the contractor on the boulders, metal, shingle, sand and bajri etc., or any other materials collected by him for the work direct to the revenue authority of the District / State Government concerned and nothing extra shall be payable on this account

### **38. Deviation, Extra Items and Pricing (Refer Clause 12 GCC)**

The following conditions shall be used in determining the deviation items:

The Engineer-in charge reserves the right to vary the quantities of items or groups of items to be ordered as specified in the Bill of quantities, as may be necessary, during the execution of the Contract. The following are defined for the purpose of this clause:

- (i) Abnormally High Quoted Rate (AHQR) -Items for which the quoted rate is having a

deviation of more than 25% over the corresponding rate in the technically sanctioned estimate.

(ii) Abnormally Low Quoted Rate (ALQR) -Items for which the quoted rate is having a deviation of less than 25% below the corresponding rate in the technically sanctioned estimate

(iii) For AHQR items, the Contractor is bound to execute up to the agreed quantity. In case of variation over the agreed quantity, the admissible rate for the excess quantity shall be limited to the technically sanctioned estimate rate modified by the overall tender excess/tender deduction subjected to a maximum of the PWD local market rate prevailing at the time of ordering the excess quantity

(iv) For other items, the Contractor is bound to execute up to 25% over the agreed quantity. In case of variation over 25% of the agreed quantity, the admissible rate for the excess quantity shall be limited to the technically sanctioned estimate rate modified by the overall tender excess/tender deduction subjected to a maximum of the PWD local market rate prevailing at the time of ordering the excess quantity

(v) No increase shall be permitted within the original contract period and the rate in excess of market rate shall not be given under any circumstances. Upon rate revision shall be considered only in exceptional cases which shall be approved by the Employer for the enhanced rates based on the recommendation of the Engineer.

## **CHAPTER B**

### **SPECIAL CONDITIONS OF CONTRACT – ELECTRICAL & ELV WORKS**

#### **1. General**

The Electrical & ELV installations shall be in total conformity with the Single Line Diagrams, Schematic Drawings, Floor wise layouts of various services, Technical specifications, Statutory guidelines relevant to various services, Approved List of Manufacturers.

All works and materials submitted by the Contractor and approved by the Engineer-in-charge & shall be tested & commissioned in the presence of the Contractor and the Engineer - in-Charge.

The responsibility for the sufficiency, adequacy and conformity to the Contract requirements of the electrical installation work lies solely with the Contractor.

The planning, design, construction and workmanship shall be in accordance with the best engineering practices to ensure satisfactory performance and service life and shall be complete in all respects. Any materials or accessories which may not have been specifically mentioned, but which are necessary for the satisfactory and trouble-free operation and maintenance of the equipment shall be provided without any extra cost. This shall also include spares, consumables, tools & tackles required for commissioning of the equipment.

The Contractor shall obtain statutory approvals for the following from respective authorities:

KSEI's approval - Electrical scheme of the project

KSEB - Updation on the electrical load based on their scope of work.

Approval from any other statutory body in connection with completion of services work for the project

Note: -All statutory fee payable in this regard will be reimbursed against production of original receipts/documentary evidence.

#### **2. Completeness of Bid**

All sundry fittings, assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the quoted prices, whether such items are specifically mentioned in the Bid documents or not.

#### **3. Works to be done by the Contractor**

Unless and otherwise mentioned in the Bid documents, the following works shall be done by the Contractor, and their cost shall be deemed to be included in the respective electrical related items, in case the provision for the same is not included in civil works:-

- a. Foundations for equipment and components where required, including foundation bolts

- b. Cutting and making good all damages caused during installation and restoring the same to their original finish
- c. Sealing of all floor openings including shafts and niches etc. provided for pipes, ducts, cables, bus bars etc from fire safety point of view, after laying of the same.
- d. Painting at site of all exposed metal surfaces of the installation other than pre- painted items like fittings, fans, switchgear/ distribution gear items, cubicle switch board etc. damages during erection, shall however be rectified by the contractor.
- e. Testing and commissioning of complete installation.
- f. The wiring for the lighting circuit and point wiring inside the lab area is already done and placed above false ceiling. The switch boxes to be provided in the proposed partition and the wires to be extended to the same through PVC conduit.
- g. The circuits from the existing power DBs to the proposed power points shall be done as per the GFC drawing.
- h. The conduit, switch boxes etc have to be placed recessed in the proposed double wall partition.
- i. The partition wall have to be strengthened suitably where the distribution board is going to be provided.

#### **4. Cutting of structural members**

No structural member shall be chased or cut without the written permission of the Engineer-in- Charge.

#### **5. Drawings**

##### **a. Tender drawings**

The tender drawings have been appended to the tender document for guidance of the contractor. The contractor shall plan and design all services and prepare shop drawings. The shop drawings shall cover, but not limited to, the extent and general arrangements of the fixtures, controlling switches, wiring system, distribution boards, panels, sub-panels, rising mains etc.

The Contractor shall submit requisite number of working electrical drawings based on tender drawings including reflected ceiling plan for the Engineer-in-charge's approval. Contractor has to make necessary changes if any as per comments given by Engineer-in- charge before execution. The work shall be executed as indicated in the approved drawings, however any minor changes found essential to co-ordinate the installation of this work with the other trades shall be made in consultation with the Engineer-in-charge.

Any discrepancies noticed shall be reported to the Engineer-in-charge for clarification. In case of failure to do so Contractor shall not be entitled to any cost for omissions or defects in electrical drawings due to any conflict with other services work.

Any information/data shown/not shown in these drawings shall not relieve the contractor of his responsibility to carry out the work as per the specifications. Additional information required by the bidder/tenderer for successfully completing the work shall be obtained by him.

The contractor shall procure equipment / materials as per list of the approved makes with prior approval of Engineer-in-Charge. For all non-specified items, approval of the HITES shall be obtained prior to procurement of the same. HITES shall in no way be liable for rejection of the any material due to poor quality, poor workmanship, poor material etc.

**b. Shop Drawings**

Prior to the laying of the conduits and trunking, the Contractor shall submit the shop drawings for the approval of the Engineer-in-charge. The observations, if any, of Engineer-in-charge shall be incorporated and drawings shall be re-submitted for the approval of the Engineer-in-charge.

The Contractor shall prepare and submit to the Engineer-in-charge for his approval detail shop drawings for all Electrical & ELV services, General Arrangement Drawings, SLD, Floor wise/building wise Single line diagram, GA drawing and connectivity to the grid, power/control wiring drawing for Main & Sub Panels / Distribution Boards, special pull boxes, light & fan switchboards, Earthing system and other equipment to be procured/ fabricated by the Contractor.

Contractor shall submit following documents to Engineer in charge for approval: -

a. Electrical load sheet showing following: -

- Mentioning total connected load/maximum demand/diversity factor etc of the project
- Mechanical equipment load (HVAC & Biomedical) –room wise / floor wise
- Biomedical load - Equipment wise load
- Electrical load - plumbing services etc. with individual load
- Any other equipment/item required for the completion of the project

Note: - Documents to be submitted from manufacturer to justify the electrical load of each equipment

b. Contractor shall submit shop drawings mentioned below to Engineer in charge for approval.

- Lighting/Power/Cable tray/Telephone & Data, CCTV, Access control system - Floor wise for the project.
- Single line diagram for each service
- Schematic diagram mentioning UPS, LT panels, Sub panels, PCC/Equipment panels, VDBs
- Schematic diagrams of Telephone/Data/CCTV/Access control /Audio Video systems
- Earthing layout
- Foundation details of equipment as applicable



The contractor shall prepare detailed coordinated electrical shop drawing indicating lighting/lighting fixtures, convenience outlets, LT Panel Boards/ Panels, PCC, DBs, Cable Schedule with other relevant services and submit for approval of the Engineer-in-Charge before commencing the work.

The fixing details for conduits indicating run and size of wire/cables, outlet/pull/junction boxes etc. with fixing details etc. shall be provided. All works shall be carried out after the approval of these drawings. However, approval of these drawings do not relieve the contractor of his responsibility for providing maintenance free and fool proof system including any missing component/ accessories to meet with the intent of the specifications. Contractor will submit requisite no of prints for preliminary approval and finally requisite sets of prints for distribution.

The Contractor shall submit and get approved the relevant drawings at least 15 days before placing of the orders with manufacturers/suppliers.

Note:-

The approval of shop drawings, schedule, brochures etc. by Engineer-in-charge and shall not relieve the Contractor from responsibility for any deviation from drawings or specifications unless he has in writing informed by Engineer-in-charge of such deviations at the time of submission of the drawings nor shall it relieve the Contractor from any responsibility for errors or omissions of any kind in the shop drawings.

## **6. Materials & Equipment and Approval**

All the materials and equipment shall be of the approved make and design. Unless otherwise called for any approval by Engineer-in-Charge, only the best quality materials and equipment shall be used.

All materials and equipment shall be ISI marked, as applicable, and shall be of the make and design approved by the Engineer-in-charge. Unless otherwise called for, only the best Grade of materials and equipment shall be used. The Contractor shall be responsible for the safe custody of all materials and equipments till these are taken over by CLIENT/HITES and shall insure them against theft, damage by fire, earth quake etc. A list of items of materials and equipment, together with a sample of each shall be submitted to the Engineer-in-charge for his approval and shall be kept in the sample box.

All materials used on the Works shall be new and of the approved quality, conforming to the relevant specifications. Prior approval shall be obtained in writing from the Engineer-in-charge for all materials proposed and when approved, sample shall be duly identified and labeled, it shall be deposited with the by Engineer-in-charge/ and shall be kept in the sample room at Site

## **7. Inspection, Testing and Inspection Certificate**

The HITES or duly authorized representative shall have at all reasonable times free access to the Contractor/ Manufacturer's premises or works and shall have the power at all reasonable times to inspect and examine the materials and workmanship of the works during its manufacture or erection, if part of the works is being manufactured or assembled at other premises or works, the Contractor shall obtain permission to inspect as if the works were manufactured or assembled on the Contractor's own premises or works.

Inspection may be made at any stage of manufacture, dispatch or at site at the option of the HITES and the equipment if found unsatisfactory due to bad workmanship or quality, material is liable to be rejected.

All equipment being supplied shall conform to Routine and Type Tests in accordance with relevant IS Codes requirements stipulated under respective sections. Routine and Type Tests shall be carried out at manufacturers' works/ factories. Expenditure incurred on conducting such tests shall be to the Contractor's account. Bidder shall submit the routine & type tests reports to Engineer-In-charge.

The contractor shall inform HITES within fifteen (15) days from the date of inspection or as defined, inform in writing to the Contractor of any objection to any drawings and all or any equipment and workmanship which in his opinion is not in accordance with the Contract. The Contractor shall give due consideration to such objections and make the necessary modifications accordingly.

Before dispatch to site, the contractor shall offer the equipment for inspection at premises of the manufacturer, 15 days in advance and inform HITES about the date of inspection. Subsequently, HITES shall depute its Inspection Engineer(s) for carrying out the inspection at premises of the manufacturer on mutually agreed date(s). Contractor shall invariably depute his representative(s) for witnessing the complete inspection procedure jointly with Inspection Engineer(s) of HITES.

The contractor shall arrange all necessary instruments, tools, tackles and testing facilities free of cost for such inspections. Contractor shall arrange for inspection visit(s) and bear all inspection costs including Inland/ abroad travel (Air/Rail/Road), lodging and boarding expenses etc. free of cost for the Inspection Engineer(s) deputed by HITES.

For tests whether at the premises or at the works of the Contractor or of any Sub- Contractor, the Contractor except where otherwise specified shall provide free of charge such items as labour, materials, electricity, fuel, water, stores, apparatus and instruments as may be required by HITES or this authorized representative to carry out effectively such tests of the equipment in accordance with the Specification.

The inspection by HITES and issue of Inspection Certificate thereon shall in no way limit the liabilities and responsibilities of the Contractor in respect of the agreed quality assurance programme forming a part of the Contract.

The HITES will have the right of having at his own expenses any other tests(s) of reasonable nature carried out at Contractor's premises or at site or in any other place in addition of aforesaid type and routine tests to satisfy that the material comply with the specifications.

The HITES reserves the right for getting any field tests not specified in respective sections of the technical specification conducted on the completely assembled equipment at site. The testing equipment for these tests shall be provided by the Contractor.

HITES reserves the right to waive off inspection of any equipment, items etc at its sole discretion.

Notwithstanding approval of tests or equipment by the by Engineer-in-charge, the Contractor shall be required to perform site tests and prove the correctness of ratings and performance of equipment /machinery and materials supplied and installed by the Contractor as per the Contract specifications and conditions. The Engineer-in-charge shall also have the power to order the material or work to be tested by an independent agency at the Contractor's expense in order to prove soundness & adequacy.

#### **8. Testing and Commissioning**

The Contractor shall pay for and arrange without any cost to the Engineer-in-charge, all necessary balancing and testing equipment, instruments, materials, accessories, power, water, fuel and the requisite labour for testing. Any defects in materials and/ or in workmanship detected in the course of testing shall be rectified by the Contractor entirely at his own cost, to the satisfaction of the Engineer-in-charge. The installation shall be retested after rectification of defects and shall be commissioned only after approval by the Engineer-in-charge. All tests shall be carried out in the presence of the Engineer-in-charge or his representative.

#### **9. Factory Acceptance Test**

Following equipments are to be tested at their factory/works before delivery to the site:  
UPS (including battery)

FAT format for each equipment shall be submitted to engineer in charge for approval prior to visit.

Material without factory acceptance test certificates shall not be permitted to install at site

#### **10. Packaging**

All the equipment shall be suitably protected, coated, covered or boxed and crated to prevent damage or deterioration during transit, handling and storage at Site till the time of erection. While packing all the materials, the limitation from the point of view of availability of Railway wagon/truck/trailer sizes in India should be taken account of the Contractor shall be responsible for any loss or damage during transportation, handling and storage due to improper packing. Any demurrage, wharfage and other such charges claimed by the transporters, railways etc. shall be to the account of the Contractor. HITES takes no responsibility of the availability of any special packaging/transporting arrangement.

#### **11. Tests**

##### **Charging**

On completion of erection of the equipment and before charging, each item of the equipment shall be thoroughly cleaned and then inspected jointly by the HITES and the Contractor for correctness and completeness of installation and acceptability for charging, leading to initial pre-commissioning tests at Site. The pre-commissioning tests to be performed as per relevant I.S. given and shall be included in the Contractor's quality assurance programme.

##### **Commissioning Tests**

The available instrumentation and control equipment will be used during such tests and the Contractor will calibrate all such measuring equipment and devices as far as practicable.

However, unmeasurable parameters shall be taken into account in a reasonable manner by the Contractor for the requirement of these tests. The tests will be conducted at the specified load points and as near the specified cycle condition as practicable. The Contractor will apply proper corrections in calculation, to take into account conditions, which do not correspond to the specified conditions.

All instruments, tools and tackles required for the successful completion of the Commissioning Tests shall be provided by the Contractor, free of cost.

Pre-commissioning test shall be carried out as per relevant IS and/or as specified.

The Contractor shall be responsible for obtaining statutory clearances from the concerned authorities for commissioning of the equipment. However necessary fee shall be reimbursed by HITES on production of requisite documents.

### **Performance Guarantee Certificates for Equipment**

All equipment shall be guaranteed against unsatisfactory performance and/or break down for a minimum period of 36 months or date of Completion of work as certified by the EIC, whichever is later. The equipment or component or any other part of installation so found defective within the guarantee period shall be replaced / repaired by the Contractor free of cost to the satisfaction of the CLIENT / HITES. The above guarantee and/ or warrantee provided by the manufacturer will be submitted along with all the test certificates from manufacturer to HITES.

### **Completion Drawings (As Built Drawings)**

On completion of the work and before issue of certificate of virtual completion, the Contractor shall at his own cost submit to the Engineer-in-charge requisite sets of layout drawings drawn at the approved scale indicating the actual installations. These drawings shall clearly indicate the complete plant layouts, and piping layouts, location wiring, exact location of all the concealed piping, valves, controls, wiring and other services. The Contractor shall also submit requisite sets of consolidated control diagrams, technical literature on all automatic controls and complete technical literature on all equipment and materials. The Contractor shall mount a set of all consolidated control diagrams and all piping diagrams/ Single Line diagrams in a frame with glass, and display in the substation.

### **12. As built drawings**

Also, the contractor shall submit soft copy of “As Built” drawings (in AutoCAD & PDF format) of the work including write up (trouble shooting, installation, operation and maintenance manual with instructions) incorporating all such changes and modifications during engineering and execution along with warrantee & guarantee certificates from manufacturers. As-Built Drawings for all buildings/ blocks/ facilities constructed shall be provided as following:

- a. Single Line diagrams showing UPS, all LT Panels, DBs, etc.
- b. Routing and locations of conduits, inspection boxes and junction boxes etc.
- c. Locations and rating of Light, Power and UPS sockets and switches

- d. Location and details of main & sub distribution boards, distribution boards indicating the circuit number controlled by them
- e. Type of fitting viz. LED, pendants, brackets, bulkhead etc., including their rating & type, fans and exhaust fans
- f. A complete wiring diagram as installed and schematic drawing showing all connections for the complete electrical system
- g. Location of telephone/data/CCTV/Access control point outlets, junction boxes and sizes of various conduits and number & sizes of wire drawn
- h. Layout of Telephone/ LAN/OFC/CCTV/Access control cables
- i. Location of all earthing stations, route and size of all earthing conductors, manholes etc.
- j. Layout and particulars of cables & sub mains.
- k. Schematic drawing for Telephone, Data, CCTV, Access control system
- l. Layout of conduits & locations of for LAN/ Wifi Points
- m. Layout and details of Earthing Network including Insulation tests and earth test results
- n. General Arrangement drawings for all Electrical & LV Equipment
- o. Cable route layout of LT, Control cables & other cables
- p. Any other drawings/details as per requirements and directions of Engineer-in-charge.

### **13. Repairs**

All equipment that requires repairing shall be immediately serviced and repaired during the defect liability period. All spares/parts and labours shall be furnished by the contractor free of cost.

### **14. Training of Personnel**

The Contractor shall arrange for training of the HITES/ CLIENT's personnel prior to provisional takeover of the project including for the following:

- a. UPS
- b. Adjustment of setting for controls and protective devices
- c. Preventive maintenance & check list familiarization
- d. Operation and maintenance of all electrical panels, UPS, Telephone system, Data system, AV system, CCTV system, Access control system including the interconnectivity and interlocking scheme
- e. Any other specialized system as executed under this contract

### **15. Safe Custody and Storage**

Safe custody of all machinery and equipment dismantled, shifted & supplied by the Contractor shall be his own responsibility till the final taking over by the CLIENT/HITES. The Contractor should, therefore, employ sufficient staff for watch and ward at his own expenses.

CLIENT/HITES may, however, allow the Contractor to use the building space for temporary storage of such equipment, if such space is available.

## **16. Handling, Storing and Installation**

In accordance with the specific installation instructions as shown on manufacturer's drawings or as directed by the HITES or his representative, the contractor shall unload, store, erect, install, wire, test and place into commercial use all the equipment included in the contract. Equipment shall be installed in a neat, workman like manner so that it is level, plumb, square and properly aligned and oriented.

Contractor shall follow the unloading and transporting procedure at site, as well as storing, testing and commissioning of the various equipment being procured by him separately. Contractor shall unload, transport, store, erect, test and commission the equipment as per instructions of the manufacturer's Engineer(s) and shall extend full co-operation to them.

In case of any doubt/ misunderstanding as to the correct interpretation of manufacturer's drawings or instructions, necessary clarifications shall be obtained from the HITES. Contractor shall be held responsible for any damage to the equipment consequent for not following manufacturer's drawings/instructions correctly.

Where assemblies are supplied in more than one section, Contractor shall make all necessary connections between sections. All components shall be protected against damage during unloading, transportation, storage, installation, testing and commissioning. Any equipment damaged due to negligence or carelessness or otherwise shall be replaced by the Contractor at his own expense.

The Contractor shall submit to the HITES every week, a report detailing all the receipts during the week. However, the Contractor shall be solely responsible for any shortages or damages in transit, handling and/or in storage and erection of the equipment at Site. Any demurrage, wharf age and other such charges claimed by the transporters, railways etc. shall be to the account of the Contractor.

The Contractor shall be fully responsible for the equipment/material until the same is handed over to the HITES in an operating condition after commissioning. Contractor shall be responsible for the maintenance of the equipment/material while in storage as well as after erection until taken over by HITES, as well as protection of the same against theft, element of nature, corrosion, damages etc.

The Contractor shall be responsible for making suitable indoor storage facilities, to store all equipment, which require indoor storage.

Exposed live parts shall be placed high enough above ground to meet the requirements of electrical and other statutory safety codes.

The minimum phase to earth, phase to phase and section clearance along with other technical parameters for the various voltage levels shall be maintained as per relevant IS codes.

## **17. Eligibility**

### **a. Electrical works**

The proposed contractor shall hold valid class B Electrical Contractor's License (i.e., All LT / MV Electrical Installation upto 150kW including Generator installations upto 150kVA) from Kerala State Electrical Inspectorate (KSEI) to execute the electrical works mentioned for this project.

The main contractor can appoint a sub contractor holding above mentioned license.

### **b. ELV works**

Contractor shall appoint subcontractor for following works with eligibility as mentioned below:

Works:-

- CCTV system
- AV system
- Data system
- Telephone system
- Access control system

Subcontractor shall be authorised by Original Equipment Manufacturer (OEM) for above systems. The OEM shall be selected from Approved List of Manufacturers (ALM).

The sub-contractor to be engaged must have office/Service Facility in this region (Kerala, Tamilnadu, Telangana and Karnataka) since last 7 years.

Contractor shall submit work completion certificates from clients (of the sub-contractor to be engaged for specialized works) regarding satisfactory functioning of these systems during the last 7 years.

If required Contractor shall arrange site visit to the engineer in charge at his cost in projects executed by the proposed OEM.

## CHAPTER C

### SPECIAL CONDITIONS - HVAC SYSTEM

#### HVAC WORKS PAYMENT TERMS

The following percentage of contract rate shall be payable against the stages of work shown herein:-

<b>Stage</b>	<b>Stage of work</b>	<b>Percentage</b>
I	After initial inspection (wherever specified and delivery at site in good condition as verified by the engineer in charge on pro-rata basis	70%
II	After completion of installation on pro-rata basis	20%
III	On Testing & Commissioning	10%



## CHAPTER – D

### MGPS

#### A. General

<b>Sl.No</b>	<b>Activity</b>	<b>Time Limit</b>
1.1.1	Installation & Commissioning period	As per direction of EIC
1.1.2	Comprehensive warranty period	3 years for the work and equipment's supplied after Completion of work as certified by EIC
1.1.3	CMC period (after warranty)	5 years (Five Years)
1.1.4	CMC charges	The bidder shall also quote for the CMC charges for 5 (five) years as per the format provided in the Volume V – FINANCIAL BID/ PRICE BID. To arrive L1, rates quoted for CMC will not be considered. The successful bidder is bound to do the CMC for 5 years after the warranty period. For CMC the successful bidder shall enter into a contract with the Institute directly after completion of warranty period on the terms and condition of this bid document, as per the requirement of Institute.
1.1.5	Frequency of visits to all User Institution concerned during Warranty/CMC	One visit every three months (4 visits in a year) for periodic/preventive maintenance and any time for attending repairs/break down calls.
1.1.6	Frequency of payment of CMC charges	Every six months after completion of the period
1.1.7	Payment Installments of Price of equipment's and ratio	3 Installments and in the ratio 70: 20:10.  70 % on delivery , 20% against Installation Certificate and 10% against Final Acceptance Certificate (FAC) by Institute.
1.1.8	Maximum time to attend any Repair call	Within 24 hours
1.1.9	Uptime in a year	98% uptime warranty and during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis

**B.** The contractor may engage sub-contractor for MGPS work with the approval of EIC. The MGPS vendor should have service facility in South India and who have the capability to attend repairs of the equipment within the time mentioned in the tender anywhere in Kerala and who are willing to provide stand by equipment or replace the faulty equipment if the repair/down time extends beyond 72 hours from the time of reporting of the fault within the next 48 hours (total down time should not exceed 5 days in one instance). The bidders who have the capability to ensure the uptime mentioned in the tender.

### **C. SCOPE OF TENDER**

- 1 Tender is invited for the installation and commissioning of MGPS for the Supply, Installation, Testing & Commissioning of MGPS for BSL-II virology Lab, Thonakkal.
- 2 The successful bidder shall visit the respective institute on receipt of LOA and prepare shop drawing to show the route of pipeline with dimensions as per the requirement, approved by the respective head of institution. The successful bidder shall obtain for himself at his own responsibility all the information which may be necessary for the purpose of the successful execution of the contract.
- 3 Bidder shall complete the work within the stipulated time period.
- 4 All related civil works which include but not limited to demolition, fixing, fastening, drilling, welding, painting and electrical works should be carried out as per specification by the bidder.

Bidder will be responsible for other associated work related to installation and commissioning of complete MGPS system.

Bidder should provide factory test certificates for the materials used. Bidder should supply complete set of part manuals, service manuals and user manuals for all the systems and subsystems supplied. Final electrical safety test, system test, leakage and calibration should be done by authorized persons using calibrated test equipment as per standards.

The Medical Gas Pipe Line System must follow Single Standard any one only from: NFPA 99c/HTM 02-01/ ISO 7396-1/DIN/EN

## **5 OTHER GENERAL CONDITIONS:**

- 5.1 Bidder shall offer unit rates of each category works as specified in the technical specifications in the price bid form.
- 5.2 The measurements mentioned is prepared by EIC/HITES and the evaluation of price bids will be only on the basis of area/Qty mentioned in the price bid form.
- 5.3 The demolition work required shall be done by the bidders and the debris has to be removed from the site and disposed properly.
- 5.4 Acquiring power required for the complete installation and commissioning of the MGPS work is the responsibility of the bidder. This may be done in coordination with the main building contractor.
- 5.5 Measurement which has to be taken during the course of work shall be intimated promptly by the bidder to EIC/HITES in writing. In case if it is not informed to EIC/HITES appropriately, then the measurement shall be done only for the visible area and the decision of EIC/HITES is final in this regard.
- 5.6 The technical specifications of the work within scope are provided in Volume IV.
- 5.7 All the equipment supplied shall have the warranty period and AMC/CMC period as tender condition.

## **6 INSPECTION OF SITE.**

- 6.1 Bidders are expected to inspect the site of the proposed work before offering rates and shall go through all the drawings, specifications and other tender conditions. The Bidder shall clearly understand the scope of work and shall offer the rates. Any further clarifications in the drawings and documents can be obtained from EIC/HITES.
- 6.2 The Bidder shall inspect and acquaint himself with the site conditions approaches, availability of raw materials, geological and weather conditions examine the site and its surroundings, and shall satisfy himself before submitting tender, as to the nature of the ground, form and nature of the site, the quantities and nature of work and materials required for the completion of the works, the means of access to the site, the local labour conditions, the facilities available at site, the accommodation required and in general shall obtain all necessary information as to the risks, contingencies and other circumstances which may influence or affect the tender

## **7 DELIVERY AND INSTALLATION**

- 7.1 Bidder may visit the site before bidding with prior permission

- 7.2 The final quantity may increase or decrease at the request of the consignee, hence bidder should provide details of prices of all the components, equipment and their accessories on Unit basis wherever required. If the bidder does not provide rate of any equipment / instrument / accessories / consumables then that particular instrument will be considered free of cost.
- 7.3 On acceptance of the tender, the bidder shall intimate the name of his authorized representative who would be supervising the construction and would be responsible for taking entire Instructions for carrying out the work
- 7.4 The bidder should inspect the source of material, their quality, quantity and availability. The material must strictly comply with the relevant I.S. specifications.
- 7.5 The bidder must co-operate and co-ordinate with other contractors involved in other works on the site. The bidder should also note that they shall have to clear the site of vegetation, debris etc. before the commencement of the work and that no extra payment is permissible on this account.
- 7.6 Installation / construction works shall be carried out by the bidder as per the drawings approved and issued by the User Department / EIC/HITES. Bidder shall arrange for the execution of the works and the procurement of materials accordingly. The bidder must not vary or deviate from the drawings in any respect while executing the work or executing any extra work of any kind whatsoever duly consulting the EIC/HITES.
- 7.7 The bidder shall give adequate notice in writing to EIC/HITES for any further drawings or specifications that may require for the execution of the works or otherwise under the contract.
- 7.8 One copy of the drawings furnished to the bidder as aforesaid shall be kept at the site and the same shall at all reasonable times be available for inspection and use by EIC/HITES / Representative.
- 7.9 The bidder shall provide and employ only such skilled and experienced technical assistants in their respective fields and such sub-agents, foreman and leading hands as are competent to give proper supervision to the work they are required to supervise and necessary for the proper timely execution and maintenance of works in site for the execution and maintenance works.
- 7.10 No land, building belonging to or in the possession of the institution shall be occupied by the bidder. The bidder shall not use, or allow to be used, the site for any purpose other than that for executing the works. Under no circumstances, the roads within the institution campus shall be used for dumping/collection of materials by the contractor.
- 7.11 Any site-shed, proposed to be temporarily constructed by the bidder for his office work, storage of materials etc, shall conform to the standard sketch, or to the plan approved by

the representative of EIC/HITES. Permission for the construction of such sheds shall be obtained in writing.

- 7.12 All materials required for the execution of the works other than those mentioned in the Notice Inviting Tender if any, shall be supplied by the bidder. Materials so supplied shall have the approval of the representative of EIC/HITES before using on the works. All the rejected materials shall be removed at once from the site of work at the bidder's own cost.
- 7.13 The bidder shall pay all tollages and other royalties, rent and other payments or compensations, if any for getting stone, gravel, sand, clay and all other materials required for the works.
- 7.14 The bidder shall be responsible for the true and proper setting out of the works and for the correctness of the position, levels, dimensions and alignment of all parts of the works and for the provision of all necessary instruments, appliances and labour in connection therewith. If at any time during the progress of the works any error shall appear or arise in the position, level, dimensions or alignment of any part of the works, the bidder on being required to do so by the representative of EIC/HITES / User Institution, shall at his own cost rectify such error to the satisfaction of the EIC/HITES. The checking of any setting out or of any line or level by the representative of EIC/HITES shall not in any way relieve the bidder of his responsibility for the correctness thereof. The bidder shall provide all necessary instruments, appliances and labour required by the representative of EIC/HITES for checking, if any, of the setting out. The bidder shall carefully protect and observe all bench marks, site levels, pegs and other things used in setting out the works. The rates quoted for the work shall also include the cost of reference and level pillars and their dismantling, when no longer required. The bidder shall verify all dimension and elevations mentioned in the drawings prior to the commencement of work.
- 7.15 The bidder shall co-operate with the work of other agencies or Contractors that may be employed or engaged by EIC/HITES and as far as it relates to the bidders' work. The sequence of work shall be so arranged that the work of other agencies is also in progress simultaneously.
- 7.16 The bidder must take precautionary measures to protect the underground and other services lines viz. cables, water and sewer lines, etc. and observe any specific instructions which may be given in this regard by the representative of EIC/HITES / User Institution.
- 7.17 Any defect developed within warranty will have to be rectified by the bidder at their own cost and in case the defects are not rectified by the bidder in time, The Site engineer/" EIC/HITES" or their representative shall get the work done at the risk and cost of the bidder.

- 7.18 The bidder shall not be entitled to any compensation for any loss suffered by him on account of delays in commencing or executing the work, whatever the cause for such delays may be including delays in procuring Government Controlled or other materials.
- 7.19 Time is the essence of the contract. The total work has to be completed within the time stipulated in the tender document. The bidder shall draw a detailed schedule of programme in the form of a Gantt chart an approved format within one week of date of issue of work order and submit to the Site engineers for their approval.
- 7.20 All items should be carried out as per relevant specification and all the clauses of preliminary specifications should be complied with. The bidder should submit relevant brochures of the quoted make and model along with the bid.
- 7.21 The method of measurement will be as per Indian Standard 1200-1958.
- 7.22 The bidder should submit the manufacturers test certificate before producing the material for the approval of the Site engineer.
- 7.23 Earthing arrangements for all the equipment should be completed as per standard practice.
- 7.24 Warranty must be given for a period 3years.
- During the warranty period, preventive maintenance should be carried out minimum twice per year.
  - 98% uptime during warranty and during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis should be covered.
  - All the air filters used in the system including the vacuum system and surgical air system must be covered under warranty and CMC.
- 7.25 Training should be given to the required staff of the institute as to how to operate and maintain the system till they get familiar with it

**END OF VOLUME III**

**M/s HLL INFRA TECH SERVICES LTD. (HITES)**  
**(Subsidiary of HLL Lifecare Ltd., A Government of India Enterprise)**

**TENDER**  
**FOR**

**ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR**  
**INSTITUTE OF ADVANCED VIROLOGY, THONNAKKAL,**  
**TRIVANDRUM**

**Volume- I**

**NOTICE INVITING TENDER**

**Tender No. HITES/IDS/22/20**



Golden Jubilee Block, HLL Bhavan,  
Poojappura P.O  
Thiruvananthapuram  
PH: 0471 - 2775500

# HLL INFRA TECH SERVICES LTD. (HITES)

## NOTICE INVITING E-TENDER

Tender No. HITES/IDS/22/20

Dated: 11.11.2022

HLL Infra Tech Services Ltd (HITES) on behalf of Institute of Advanced Virology, Government of Kerala invites on-line Item Rate bids from eligible contractors/firms for the following work

Name and Description of work	Estimated cost Excluding GST (Rs.)	Completion period of Work	Last date & time to submit the e-tender
ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR INSTITUTE OF ADVANCED VIROLOGY, THONNAKKAL, TRIVANDRUM	Rs. 3,67,49,212.41/-	03 months	28.11.2022 at 3.00 pm

For submission & other tender details, please refer detailed NIT on e-tender portal [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), [www.hllhites.com](http://www.hllhites.com), <https://iav.kerala.gov.in/> and Central Public Procurement Portal

HITES/ Client reserves the right to accept or reject any application without assigning any reason or incurring any liability whatsoever. Prospective bidders are advised to regularly scan through [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), [www.hllhites.com](http://www.hllhites.com), <https://iav.kerala.gov.in/> and Central Public Procurement Portal as corrigendum/amendments etc., if any, will be notified on this portal only and separate advertisement will not be made for this.

VC link for pre bid meeting scheduled at HITES office Trivandrum on 17.11.2022 at 11AM : [meet.google.com/qsv-nmyq-phh](https://meet.google.com/qsv-nmyq-phh)

**Deputy General Manager (ID)**



## HLL INFRA TECH SERVICES LTD. (HITES)

### NOTICE INVITING E-TENDER

HLL Infra Tech Services Ltd (HITES) on behalf of Institute of Advanced Virology, Government of Kerala invites on-line Item Rate bids from eligible contractors/firms for the following work

Name and Description of work	Estimated cost Excluding GST (Rs.)	Completion period of Work	Tender document fee / e-tender processing fee	Last date & time to submit the e-tender	Bid Security amount (Rs.)
ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR INSTITUTE OF ADVANCED VIROLOGY, THONNAKKAL, TRIVANDRUM	Rs. 3,67,49,212.41/-	03 months	Rs.11,800/- (inclusive of GST)	28.11.2022 at 3.00 pm	Rs. 1,00,000/-

\* For MSME registered bidders, the proof of registration in the line of work and monetary limit shall be attached. The Tender document fee / e-tender processing fee will be free of cost for them and such bidders will be exempted from EMD. MSME bidders shall submit bid security (EMD) declaration in the format as attached.

For submission & other tender details, please refer detailed NIT on e-tender portal [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), [www.hllhites.com](http://www.hllhites.com), <https://iav.kerala.gov.in/> and Central Public Procurement Portal.

HITES/ Client reserves the right to accept or reject any application without assigning any reason or incurring any liability whatsoever. Prospective bidders are advised to regularly scan through [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), [www.hllhites.com](http://www.hllhites.com), <https://iav.kerala.gov.in/> and Central Public Procurement Portal as corrigendum/amendments etc., if any, will be notified on this portal only and separate advertisement will not be made for this.

1. The intending bidder must read the terms and conditions of Notice Inviting Bids and the Bid documents carefully. They should only submit the bid if they consider themselves eligible and they are in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. The document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from e-tender portal [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in) and [www.hllhites.com](http://www.hllhites.com).
4. Contractor must ensure to quote rate of each item. Therefore, if any cell is left blank and no

rate is quoted by the bidder, rate of such item shall be treated as "0"(ZERO).

- a. If a tenderer quotes nil rates against each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
5. The Technical bid shall be opened first on due date and time as mentioned above. The time and date of opening of financial bid of contractors qualifying the technical bid shall be communicated to them at a later date.
6. The Client/HITES reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.
7. TENDER FEE (NON-REFUNDABLE): The tender document(s), may be downloaded free of cost from the e-Government Procurement (e-GP) website (www.etenders.kerala.gov.in). However the bid submission fee, as mentioned in the NIT, is required to be submitted along with the online bid.
8. EMD: Bidders shall remit the Bid Security using the online payment options of e-Procurement system only. Bidders are advised to visit the "Downloads" section of e-Procurement website.

**The Bidder shall pay the Earnest Money Deposit of Rs.1,00,000/- . A part of earnest money is acceptable in the form of bank guarantee also. In such case, 50% of EMD or Rs.20.00 lakhs whichever is less shall have to be deposited online as prescribed above and balance can be accepted in the form of a bank Guarantee issued by a scheduled bank valid for 6 months from the last date of submission of bid. In such case, the scanned copy of BG shall be scanned and uploaded along with the bid and original to be submitted to the office of Deputy General Manager (ID), HITES, Poojappura PO, Thiruvananthapuram on or before the last date & time of submission of bid.**

**If the bidder is submitting a part of EMD as Bank Guarantee as above, the bidders has to select the option 'YES' for the query 'if EMD exemption is applicable'. Otherwise, full payment has to be transferred online itself. For further assistance, the e tender portal may be contacted before attempting transaction.**

9. The complete set of Tender Documents comprising five Volumes I, II, III ,IV, V & VI shall be made available, as per above schedule, on the above mentioned websites. The interested applicants/contractors/firms may attend the **pre bid meeting over video conference on 17.11.2022 at 11.00 AM**, which will be held at the Office of M/s HLL Infra Tech Services Ltd. (HITES), Golden Jubilee Block, HLL Bhavan, Poojappura P.O, Thiruvananthapuram-695 012.

Also the bidders having queries/clarification regarding the tender can submit their queries at e-tender portal on or before 17.11.2022 at 10.00 AM.

10. HITES reserves the right to accept or reject any application without assigning any reason or incurring any liability whatsoever.
11. Prospective bidders are advised to regularly scan through the given websites as corrigenda/amendments etc., if any, will be notified on these portals only and separate advertisement will not be made for this. Bidders are advised to check all these websites regularly as at times, it is not possible to upload data on a particular website due to some technical glitch.

Addition .....
Deletion .....
Correction .....
Over Writing .....

## 12. General Tender Terms & Conditions for e-Procurement

This tender is an e-Tender and is being published online. The tender is invited in Two cover system from the registered and eligible firms through e-procurement portal of Government of Kerala (etenders.kerala.gov.in). Prospective bidders willing to participate in this tender shall necessarily register themselves with above mentioned e-procurement portal.

The tender timeline is available in the critical date section of this tender published in [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in).

Online Bidder registration process:

Bidders should have a Class II or above Digital Signature Certificate (DSC) to be procured from any Registration Authorities (RA) under the Certifying Agency of India. Details of RAs will be available on [www.cca.gov.in](http://www.cca.gov.in). Once, the DSC is obtained, bidders have to register on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in) website for participating in this tender. Website registration is a one-time process without any registration fees. However, bidders have to procure DSC at their own cost.

Bidders may contact e-Procurement support desk of Kerala State IT Mission over telephone at 0471-2577088/188/388 or 0484-2336006, 2332262 or 0497-2764788, 2764188 or 0483-273294 or through email: [etendershelp@kerala.gov.in](mailto:etendershelp@kerala.gov.in) or [helpetender@gmail.com](mailto:helpetender@gmail.com) for assistance in this regard.

### A). Online Tender Process:

The tender process shall consist of the following stages:

- i. Downloading of tender document: Tender document will be available for free download on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in). However, tender document fees shall be payable at the time of bid submission as stipulated in this tender document.
- ii. **Publishing of Corrigendum: All corrigenda shall be published on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in) and shall not be available elsewhere.**
- iii. Bid submission: Bidders have to submit their bids along with supporting documents to support their eligibility, as required in this tender document on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in). **No manual submission of bid is allowed and manual bids shall not be accepted under any circumstances.**
- iv. Opening of Technical Bid and Bidder short-listing: The technical bids will be opened, evaluated and shortlisted as per the eligibility and technical qualifications. All documents in support of technical qualifications shall be submitted (online). Failure to submit the documents online will attract disqualification. Bids shortlisted by this process will be taken up for opening the financial bid.
- v. Opening of Financial Bids: Bids of the qualified bidder's shall only be considered for opening and evaluation of the financial bid, on the date and time mentioned in critical date's section.

### B). Documents Comprising Bid:

- i. The First Stage (Pre-Qualification or Technical Cover based on 1cover or 2 cover tender system):

Pre-Qualification or Technical proposal shall contain the scanned copies of the documents which has to be uploaded in the e tender portal:

The department doesn't take any responsibility for any technical snag or failure that has taken place during document upload.

ii. The Second Stage (Financial Cover or as per tender cover system):

The Bidder shall complete the Price bid as per format given for download along with this tender.

Note: The blank price bid should be downloaded and saved on bidder's computer without changing file-name otherwise price bid will not get uploaded. The bidder should fill in the details in the same file and upload the same back to the website.

Fixed price: Prices quoted by the Bidder shall be fixed during the bidder's performance of the contract and not subject to variation on any account. A bid submitted with an adjustable/ variable price quotation will be treated as non - responsive and rejected.

C). Tender Document Fees/e-tender processing fee and Earnest Money Deposit (EMD)

The Bidder shall pay, Tender Document Fees /e-tender processing fee of Rs. 11,800/- (inclusive of GST) and Earnest Money Deposit of Rs. 1,00,000/-. The EMD is required to protect the purchaser against risk of Bidder's conduct, which would warrant the forfeiture of security.

Online Payment modes: The e-tender processing fee and EMD can be paid in the following manner through e-Payment facility provided by the e-Procurement system.

State Bank of India Multi Option Payment System (SBI MOPS Gateway): Bidders are required to avail Internet Banking Facility in any of below banks for making tender remittances in e Procurement System.

A) Internet Banking Options (Retail)			
1	Axis Bank	32	Lakshmi Vilas Bank
2	Andhra Bank	33	Mehsana Urban Co-op Bank
3	Bandan Bank	34	NKGSB Co-operative Bank
4	Bank of Bahrain and Kuwait	35	Oriental Bank of Commerce
5	Bank of Baroda	36	Punjab and Maharashtra Cooperative Bank
6	Bank of India	37	Punjab National Bank
7	Bank of Maharashtra	38	Punjab and Sind Bank
8	Bassein Catholic Co-operative Bank	39	RBL Bank
9	BNP Paribas	40	Saraswat Cooperative Bank
10	Canara Bank	41	ShamraoVithal Cooperative Bank
11	Catholic Syrian Bank	42	South Indian Bank
12	Central Bank of India	43	Standard Chartered Bank
13	City Union Bank	44	State Bank of India
14	Corporation Bank	45	Syndicate Bank
15	Cosmos Bank	46	Tamilnad Mercantile Bank
16	DCB Bank	47	Tamilnadu Cooperative Bank
17	Dena Bank	48	The KalyanJanataSahakari Bank

Addition ..... Deletion ..... Correction..... Over Writing.....
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18	Deutsche Bank	49	TJSB Bank (Erstwhile Thane JanataSahakari Bank)
19	Dhanalaxmi Bank	50	UCO Bank
20	Federal Bank	51	Union Bank of India
21	HDFC Bank	52	United Bank of India
22	ICICI Bank	53	Vijaya Bank
23	IDBI Bank	54	YES Bank
24	Indian Bank		
25	Indian Overseas Bank		
26	IndusInd Bank		
27	Jammu & Kashmir Bank		
28	JanataSahakari Bank		
29	Karnataka Bank		
30	KarurVysya Bank		
31	Kotak Mahindra Bank		
<b>B) Internet Banking Options (Corporate)</b>			
1	Bank of Baroda	21	Laxmi Vilas Bank
2	Bank of India	22	Oriental Bank of Commerce
3	Bank of Maharashtra	23	Punjab & Maharashtra Coop Bank
4	BNP Paribas	24	Punjab & Sind Bank
5	Canara Bank	25	Punjab National Bank
6	Catholic Syrian Bank	26	RBL Bank
7	City Union Bank	27	ShamraoVithal Co-operative Bank
8	Corporation Bank	28	South Indian Bank
9	Cosmos Bank	29	State Bank of India
10	Deutsche Bank	30	Syndicate Bank
11	Development Credit Bank	31	UCO Bank
12	Dhanalaxmi Bank	32	Union Bank of India
13	Federal Bank	33	UPPCL
14	HDFC Bank	34	Vijaya Bank
15	ICICI Bank	35	Axis Bank
16	Indian Overseas Bank		
17	JantaSahakari Bank		
18	Jammu & Kashmir Bank		
19	KarurVysya Bank		
20	Kotak Bank		

During the online bid submission process, bidder shall select SBI MOPS option and submit the page, to view the Terms and Conditions page. On further submitting the same, the e-Procurement system will re-direct the bidder to MOPS Gateway, where two options namely SBI and Other Banks\* will be shown. Here, Bidder may proceed as per below:

- a) SBI Account Holders shall click SBI option to with its Net Banking Facility., where bidder can enter their internet banking credentials and transfer the Tender Fee and EMD amount.

b) Other Bank Account Holders may click Other Banks option to view the bank selection page. Here, bidders can select from any of the 54 Banks to proceed with its Net Banking Facility, for remitting tender payments.

\*Transaction Charges for Other Banks vide SBI Letter No. LHO/TVM/AC/2016-17/47 – 1% of transaction value subject to a minimum of Rs. 50/- and maximum of Rs. 150/-.

\* Bidders who are using Other Banks option under SBI MOPS Payment Gateway, are advised by SBI to make online payment 72 hours in advance before tender closing time.

Any transaction charges levied while using any of the above modes of online payment has to be borne by the bidder. The supplier/contractor's bid will be evaluated only if payment status against bidder is showing "Success" during bid opening.

D). SUBMISSION PROCESS:

For submission of bids, all interested bidders have to register online as explained above in this document. After registration, bidders shall submit their Technical bid and Financial bid online on [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in) along with online payment of tender document fees and EMD.

It is necessary to click on "Freeze bid" link/ icon to complete the process of bid submission otherwise the bid will not get submitted online and the same shall not be available for viewing/ opening during bid opening process.

**Deputy General Manager (ID)**

## **DISCLAIMER**

This document has been prepared by M/s HLL Infra Tech Services Ltd. (HITES) on behalf of Institute of Advanced Virology, an autonomous Institution under Science & Technology Department, Govt. of Kerala as Project Management Consultant. The project is funded by Institute of Advanced Virology. The information is provided to prospective Bidders, who are interested to Bid for the Establishment of Biosafety Level II (BSL-II) Lab for Institute of Advanced Virology, Thonnakkal, Trivandrum.

This document is neither an agreement, nor an offer or invitation to perform work of any kind to any party.

The purpose of this document is to provide interested parties with information to assist the preparation of their Bid. While due care has been taken in the preparation of the information contained herein, and is believed to be complete and accurate, neither any of the authorities/ agencies nor any of their respective officers, employees, agents or advisors give any warranty or make any representations, expressed or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in association with it.

Further, HITES does not claim that the information is exhaustive. Respondents to this document are required to make their own inquiry/ survey and will be required to confirm, in writing, that they have done so and they did not rely solely on the information given herein.

HITES reserves the right not to proceed with the Project or to change the configuration of the Project, to alter the timetable reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the Project further with any respondent.

No reimbursement of cost of any type or on any account will be made to persons or entities submitting their Bid.

## Definitions

1. **“Application”** shall mean the response submitted by interested parties.
2. **“BID/Tender”** shall mean documents downloaded from the website by the prospective Bidder. The word “Tender” is synonymous with **“Bid”**.
3. **“Bid Security/ Earnest Money”** shall mean the amount to be deposited by the Bidder with the Tender.
4. **“Bid Validity”** shall mean the period for which the Bids shall remain valid.
5. **“Bidder”** shall mean the party located in India who is participating in the Tendering process pursuant to and in accordance with the terms of this document. The word **“Tenderer”** is synonymous with **“Bidder”**.
6. **“Client”** means Institute of Advanced Virology, an autonomous Institution under Science & Technology Department, Govt. of Kerala
7. **“Contract Agreement”** shall mean the agreement to be signed between the Successful Tenderer and the Client / HITES.
8. **“Contract Price”** shall mean the financial bid of the Successful Tenderer as accepted by the Client / HITES.
9. **“Date of commencement of work”** shall mean the date of Start as specified in the Schedule “F” i.e. from the first date of handing over of the site or 15th day from the date of issue of Letter of Acceptance (LOA), whichever is later.
10. **“Defects Liability Period”/“Maintenance Period”** means the period after completion of the Project during which the Client or his authorized representative/ Engineer-in-charge of HITES that will notify to the Contractor any defect noticed in the work and the Contractor is liable for rectification of such defects. Proof of dispatch of letter notifying the defect/ intimating the representative of Contractor at site on the last date of Defect liability period will make the Contractor liable for rectify all such defects.
11. **“Engineer in Charge” (EIC)** means the Engineer Officer of HITES as mentioned in the schedule “F” hereunder, as authorized by HITES/ Client.
12. **“Evaluation Committee”** shall mean the committee constituted by M/s HLL Infra Tech Services Ltd. (HITES) for the evaluation of the bids.
13. **“HITES”** shall mean M/s HLL Infra Tech Services Ltd., appointed by the Client as ‘Project Management Consultant’ for the project.
14. **“Letter of Acceptance”** shall mean the letter issued by the HITES to the Successful Tenderer inviting him to sign the Contract Agreement.
15. **“Performance Guarantee”** shall mean the amount to be paid by the Successful Tenderer as per relevant clause mentioned elsewhere.
16. **“E-tender Processing Fee”** shall mean the amount to be paid by the Tenderers in consideration of cost of bid document.
17. **“Project / Work”** shall mean **‘Establishment of Biosafety Level II (BSL-II) Lab for Institute of Advanced Virology, Thonnakkal, Trivandrum**
18. **“Site”** shall mean the place where the works under the Project are to be carried out and the details of which are provided in this document.



19. **“Successful Tenderer”** shall mean the Tenderer declared technically and financially successful for the Project and with whom, the Contract Agreement shall be signed.
20. **“Similar Works”** as defined in eligibility criteria.
21. **“Scheduled banks”** mean **“Scheduled commercial Banks”**
22. **“NIT”** means **Notice Inviting Tender**. The word **“Notice Inviting Tenders”** is synonymous with **“Notice Inviting Bids”**.
23. **“ITB”** means **Instructions to Bidders**

**SECTION I**  
**NOTICE INVITING BIDS**

- 1.1. HLL Infra Tech Services Ltd (HITES) on behalf of Institute of Advanced Virology, Government of Kerala invites on-line Item Rate bids from eligible contractors/firms as per eligibility criteria laid down, for the work of Establishment of Biosafety Level II Lab for Institute of Advanced Virology, Thonnakkal, Trivandrum.
- 1.2. The work is estimated to cost as given in Table - I. Any clarification shall be sought from the tender inviting authority on courier / e-mail. The NIT and other details are also available on e-tender portal [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), [www.hllhites.com](http://www.hllhites.com), <https://iav.kerala.gov.in/> and Central Public Procurement Portal.

1.3. TABLE - I

Sl. No.	Description	Details		
1	Tender no.	HITES/IDS/22/20 DATED 11.11.2022		
2	Name of work	<b>Establishment of Biosafety Level II Lab for Institute of Advanced Virology, Thonnakkal, Trivandrum.</b>		
3	Estimated cost	1	CIVIL WORKS	1,77,97,285.00
		2	PLUMBING WORKS	13,58,207.98
		3	ELECTRICAL WORKS	68,69,011.94
		4	ELV WORKS	68,47,011.29
		5	HVAC	16,72,329.00
		6	MGPS	18,77,418.00
		7	FURNITURE	3,27,949.20
			<b>TOTAL AMOUNT (Excluding GST)</b>	
4	Earnest Money deposit	Rs.1,00,000/- The bidder may remit 100% of EMD as online. Bidders can also remit 50% of EMD or Rs. 20.00 lakhs whichever is lower through online and remaining amount in the form of Bank Guarantee from any nationalized or scheduled bank having a validity period for 6 months from the date of submission of tender as per the prescribed format.		
5	E-Tender Processing Fee (Non-refundable) online	Rs. 11,800/- (inclusive of GST)		
6	Issue of Tender documents	Documents shall be available online at e-tender portal @ <a href="http://www.etenders.kerala.gov.in">www.etenders.kerala.gov.in</a> , <a href="http://hllhites.com/tenders">http://hllhites.com/tenders</a> , <a href="https://iav.kerala.gov.in/">https://iav.kerala.gov.in/</a> and CPP Portal		

8	Pre bid meeting	Pre-bid meeting on 17.11.2022 at 11.00 AM at HITES <a href="https://meet.google.com/qsv-nmyq-phh">meet.google.com/qsv-nmyq-phh</a>  The reply to the queries will be published in e tender portal.  The bidders having queries/clarification regarding the tender can submit their queries at e-tender portal/as email @ tenders@hllhites.com or before 17.11.2022 at 10.00 AM.
9	Last Date & time of Submission of Bids online (Bid due date)	28.11.2022 at 3.00 pm
10	Date & time of opening of Technical Bids through e-tender portal	29.11.2022 at 3.00 pm
11	Date of start of work	From the first date of handing over of the site or 15th day from the date of issue of Letter of Acceptance (LOA), whichever is later
12	Completion period	03 months
13	Performance Guarantee	3% of tendered value [ Atleast 50% of this guarantee shall be in form of Treasury Fixed Deposit (Govt. of Kerala) and rest in form of BG from any scheduled commercial bank based in India]
14	Security Deposit	3 % of tendered value (will be released only after completion of DLP Period)
15	Defects Liability period	5 years for Civil works and 3 years for Mechanical, Electrical & Electronics works from the date of completion of works as certified by Engineer in charge.
16	Bank account details for the purpose of preparation of Bank Guarantee only:	A/c No.38160968975. IFS Code: SBIN0004350 Bank : SBI, Commercial Branch, Thycaud, Trivandrum Name of A/c: HLL Infra Tech Services Ltd.

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

1.5. **Eligibility Criteria**

1.4.1 **The Tenderer should meet the following minimum eligibility criteria:**

Bidder who fulfills the following requirement shall be eligible to apply. Joint ventures / Consortium/ SPV of whatsoever kind are not accepted.

- a. The bidder should be an Indian firm
- b. Experience should be in the name of the bidding company and not in subsidiary/ associate company/ Group Company / JV Company etc.
- c. Experience of having successfully completed works during the last seven years ending last day of the month previous to the one in which tenders are invited as follows:

Three similar works each costing not less than amount equal to 40% of estimated cost put to tender

Or

Two similar works each costing not less than amount equal to 60% of estimated cost put to tender

Or

One similar work costing not less than amount equal to 80% of estimated cost put to tender

“Similar Works” shall mean one work having Civil, internal Electrical & Plumbing works.

Own works/ work under the same management/ own certification of the bidder shall not be considered for pre-qualification.

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

In case the work experience is of Private sector, completion certificate shall be supported with copies of Corresponding TDS Certificates.

- d. The bidder shall submit their or sub contractor’s **valid B class license** as per the rules and regulations of Kerala State Electrical Licensing Authority, for similar works
- e. **Turnover:** Average annual financial turnover should be at least 50% of the estimated cost put to tender during the immediate **last three** consecutive financial year ending 31<sup>st</sup>March, 2021. The turnover should be of the Bidding Company and not for Group Company or subsidiary company etc. ITRs for the last three years to be submitted.
- f. **Profit/loss:** The bidder should not have incurred any loss (profit after tax should be positive) in more than Two years in last Five years ending FY 2020-21. This should be duly certified by the Chartered Accountant.
- g. The performance of the bidder for the completed works shall be rated by the Client as satisfactory or above.
- h. The bidder should have sufficient number of technical and administrative employees for the proper execution of contract as per clause 32 of GCC and as per requirement in schedule F.

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- i. Those who had done work/doing work in HITES/HLL shall produce completion/ progress certificate from the Engineer in charge not below the rank of Project manager. The bidder shall be considered for further evaluation only if the performance of the bidder for the work is rated as **'good or above'**. This is mandatory. The bidders who have initiated litigation against HITES shall be considered only after the litigation is completed.
  - j. The works completed/being executed by the bidders if required will be inspected by a technical officer /expert authorized by HITES. If it is found after inspection that the performance of the bidder for the inspected works is not satisfactory in terms of quality/ time overrun/overall performance etc, the bidder may get disqualified after due verification even though the documents submitted by them will meet the other eligibility criteria as above.
  - k. The bidder shall have GST registration. The copy of GST registration shall be submitted.
  - l. The bidder shall have ESI/ EPF registration. The copy of valid ESI/EPF registration shall be submitted.
  - m. The bidder should not have been under blacklisting or debarred or penalised from bidding by any government agency or public sector undertaking or judicial authority/arbitration body as on last date of submission of bid. The bidder shall submit the affidavit on a Rs.100/- non judicial stamp paper duly notarized, to this effect, as per prescribed format (Form "F").
  - n. The bidder shall submit an affidavit that 'The work if awarded to us, subcontractors will be employed only for specialized works after getting the concurrence of HITES' as per prescribed format (Form "H").
  - o. Direct/ indirect Joint Ventures (JV )/ Consortium of any kind are not permitted.
- 1.4.2. The time allowed for carrying out the work will be **03 months** from the first date of handing over of the site or 15<sup>th</sup> day from the date of issue of Letter of Acceptance (LOA), whichever is later, in accordance with the phasing/ milestones, indicated in the tender documents.
- 1.5
- (i) The site for the work is available.
  - (ii) The labour camp shall not be allowed to locate inside the proposed site.
  - (iii) As the proposed site is located adjacent to the running institute, the contractor shall take special care to avoid disturbance to the functioning of the institute.
  - (iv) The Contractor shall settle labour problems if any occurred at site during the construction stage.
- 1.6 The bid documents consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents is available on line free of cost.
- 1.7 The bid submitted shall become invalid and e-tender processing fee shall not be refunded if:
- (i) The bidder is found ineligible.
  - (ii) The bidder does not upload all the documents (including GST registration) as stipulated in the bid document. In case the firm is not registered at the time of submission of bid, they will submit an undertaking that they will get themselves registered with the concerned authorities in case they are awarded the work.

- (iii) If any discrepancy is noticed in the documents as uploaded at the time of submission of bid.
- 1.8 The Technical package and Financial Package as detailed in clause 2.3.6 and 2.3.7 of ITB shall be submitted online, each marked as per clause 2.3.11 of ITB as per the stipulated date & time of submission of bid.
- 1.9 The Contractor, whose tender is accepted, will be required to furnish performance guarantee 3% (Three Percent) of the tendered amount within the period specified in Schedule F. At least 50% of this guarantee shall be in form of Treasury Fixed Deposit (Govt. of Kerala) and rest in form of Bank Guarantee of any scheduled commercial bank based in India, in favour of “HLL Infra Tech Services Limited” as per Form B. Performance Bank Guarantee to be valid up to sixty days beyond the stipulated date of completion or the extended period, thereof.
- 1.10 In case the contractor fails to deposit the said performance guarantee within the period as indicated in schedule ‘F’, including the extended period if any, the earnest money deposited by the contractor shall be forfeited automatically without any notice to the contractor.
- 1.11 The contractor whose tender is accepted will also be required to furnish either copy of applicable licenses/ registration or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW welfare board and programme chart (time and progress) and manpower deployment schedule within the period specified in schedule F.
- 1.12 **Evaluation of performance :**  
 Evaluation of the performance of contractors for eligibility shall be done by the HITES. If required, **the works being executed by the bidders who otherwise qualify will be got inspected by a Technical Officer / Expert authorized by the Client /HITES. If it is found that the performance of the bidder for the inspected works is not satisfactory in terms of quality/ time overrun/overall performance etc, the bidder may get disqualified even though the documents submitted by them will meet the eligibility criteria as laid down in clause 1.4.1.**
- 1.13 Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and **in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender.** A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. **The bidder shall be responsible for arranging and maintaining at its own cost all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents.** Submission of a tender by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of the work.
- 1.14 The Competent Authority of the HITES does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.

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- 1.15 Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
- 1.16 The competent authority of HITES reserves to himself the right of accepting the whole or any part of the tender and the bidder shall be bound to perform the same at the rate quoted.
- 1.17 The contractor shall not be permitted to tender for works in case his near relative is Gazetted officer in Client or in the Managerial cadres of HITES and is directly dealing with the Project. Any breach of this condition by the contractor would disqualify him from participation and consideration in the tender process.
- 1.18 No Engineer of gazetted rank or other Gazetted officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.
- 1.19 The tender for the works shall remain open for acceptance for a period of **120 (ONE HUNDRED AND TWENTY)** days from the LAST date of submission of bid or any extension thereto. If any bidder withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the Department, then the Client / HITES shall, without prejudice to any other right or remedy, be at liberty to forfeit 100% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the re-tendering process of the work.
- 1.20 This is a Time Bound Project.
- 1.21 The scope of work shall be as per section III of this document.
- 1.22 The Bidder must associate with the other agencies working at the site.
- 1.23 Registration/ Licence: The bidder should have their registration for GST, PF, ESIC, Building Cess Registration etc. (whichever is applicable), with the appropriate Authorities. In case the firm is not registered at the time of submission of bid, they will submit an undertaking that they will get themselves registered with the concerned authorities in case they are awarded the work.
- 1.24 The contractor/firm will indemnify Client/HITES, as the case may be, against all penal action that may be levied/effected by any concerned authority for default in any labour regulation/PF/ESI and other statutory requirements of the relevant Acts/Laws related to the work of the contractor and will bear the legal charges, if any, and will pay the legal charges/dues directly to the concerned authority. An undertaking in this regard is required to be submitted by applicants along with prequalification.
- 1.25 This Notice Inviting bid shall form a part of the contract document. The successful Tenderer/ contractor, on acceptance of his tender by the Accepting Authority, shall, **within 15 days** from the date of issue of the Letter of Acceptance, sign the contract consisting of :-
- a) The Notice Inviting Bids, all the documents including General Conditions of the Contract, Specific Conditions of Contract, Specifications, Bill of Quantities and drawings, if any, forming the tender as issued at the time of invitation of tender

and acceptance thereof together with any correspondence leading thereto including amendments, corrigendum etc. if any.

**Following shall also be part of the contract:**

Standard CPWD forms as mentioned in Schedule F consisting of:

- i. Various standard clauses with corrections upto the date stipulated in Schedule F along with annexures thereto.
- ii. CPWD Safety Code.
- iii. Model rules for protection of health, sanitary arrangements for workers employed by Client / HITES or its contractors.
- iv. CPWD Contractors Labour regulations
  - i. List of Acts and Omissions for which fines can be imposed.
  - ii. BIS standards
  - iii. CPWD specifications

**1.26 Bid document consists of :**

**1.26.1 Volume - I (Notice Inviting Tenders (NIT), Eligibility Criteria & Instructions to Bidders (ITB))**

**1.26.2 Volume - II (General Conditions of Contract)**

**1.26.3 Volume - III (Specific Conditions of Contract)**

**1.26.4 Volume - IV (Technical Specifications)**

**1.26.5 Volume - V (Bill of Quantities)**

**1.26.6 Volume - VI (Tender Drawings)**

**All amendments(s)/ corrigendum/ minutes of pre bid meeting, if any.**

1.27 HITES reserves the right to accept or reject any or all the tenders without assigning any reason, No Bidder shall have any cause of action or claim against the HITES for rejection of his tender.

1.28 Payments to the selected Contractor will be made directly by Institute of Advanced Virology, Thonnakkal, Trivandrum through bank transfer.

**Deputy General Manager (ID)**



**SECTION-II**  
**INSTRUCTIONS TO BIDDERS (ITB)**

**2.1 Eligibility Criteria : As per Notice inviting Bids**

**2.2 Disqualification.** Even if a Contractor meets the eligibility criteria as per clause 1.4.1, Client / HITES may, at their discretion and at any stage during the selection process or execution of the Project, order disqualification of the contractor if the Contractor has:

2.2.1 Made misleading or false representations in the forms, statements and attachments submitted; or

2.2.2 The Contractor has been blacklisted by any government agency even after bids have been opened; or

2.2.3 Record of poor performance such as abandoning work, not properly completing the contract, or financial failures/weaknesses etc.

2.2.4 Suppression of actual facts will be sufficient cause for disqualification.

**2.3 BID Documents :**

**2.3.1 Contents of BID Documents**

BID Document shall consist of the documents listed in this document along with any schedules, addendum or corrigendum etc. issued by Client for the purpose.

**2.3.2 Pre-Bid Conference**

The bidders having queries/clarification regarding the tender can submit their queries at e-tender portal as mentioned in Notice Inviting Bid. The pre bid meeting will be held on 17.11.2022, 11.00 AM at HITES Office, Trivandrum / Video Conferencing. No other queries shall be entertained or replied to, after the date of submission of queries. HITES' response (including an explanation on the query but without identifying the source of the inquiry) will be uploaded on e-tender portal [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), website of HITES [www.hllhites.com/tenders/](http://www.hllhites.com/tenders/), <https://iav.kerala.gov.in/> and CPP portal <https://eprocure.gov.in>.

**2.3.3 Clarifications**

Contractor requiring any clarification with regards to the BID document may utilize the forum of pre-bid to submit queries/clarification regarding the tender can submit their queries at e-tender portal/ as email [tenders@hllhites.com](mailto:tenders@hllhites.com). HITES will respond to any request for clarification which is received within date specified in the NIT. The response (including an explanation on the query but without identifying the source of the inquiry) will be uploaded in the e-tender portal. Only written communication/ clarification can be considered as valid.

**2.3.4 Amendment to BID Document**

- i. At any time prior to the deadline for the submission of Bids, HITES, may, for any reason, whether at its own initiative or in response to a clarification or query raised by prospective Bidders, modify the BID document by an amendment.
- ii. The said amendments in the form of the addendum/corrigendum will be made available on the HITES website [www.hllhites.com/tenders/](http://www.hllhites.com/tenders/), e-tender portal [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in), <https://iav.kerala.gov.in/> and CPP portal <https://eprocure.gov.in> not later than 3 days to the original or extended

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deadline for the submission of the bids. The uploading of the said amendments shall be binding of the bidders. The Bidders are strongly advised to regularly visit above websites to ensure that they are aware of the amendments. The addendum (s) / corrigendum (s) issued will form part of the BID documents.

- iii. In order to afford prospective Bidders reasonable time for preparing their Bids after taking into account such amendments, the HITES may, at its discretion, extend the deadline for the submission of Bids.

**2.3.5 Preparation of Bid:**

a) Bidder's responsibility:

- i. The Bidder is solely responsible for the details of his Bid and the preparation of Bids.
- ii. The Bidder is expected to examine carefully all the contents of BID document as mentioned in Notice Inviting Bids including instructions, conditions, forms, terms, etc. and take them fully into account before submitting his offer. Bids, which do not satisfy all the requirements, as detailed in these documents, are liable to be rejected as being unresponsive.
- iii. **The Bidder shall be deemed to have inspected the Site and its surroundings and taken into account all relevant factors pertaining to the Site, while preparing and submitting the Bid.**

b) Project Inspection and Site Visit

Any Site information and drawings given in this Bid Document is for guidance only. **The Bidder is advised to visit and examine the Site of works and its surroundings, understand the scope of work at his/their cost and obtain at his/their own responsibility, any information that may consider necessary for preparing the Bid and entering into a Contract with HITES, including availability of electricity, water and drainage.**

The HITES shall not be liable for such costs, regardless the outcome of the selection process.

c) Documents Comprising the Bid

Bidder shall submit their Bids ONLINE. The contents of the Technical and Financial packages are as mentioned hereinafter i.e. Clause 2.3.6 & 2.3.7.

d) Alternative Proposal by bidders:

Bidders shall submit offers that comply with the requirement of the Tender, as indicated in the drawing and specifications. Alternatives will not be considered.

e) **Method of Application:**

- i. If the bidder is an individual, the application shall be signed by him above his/her full type written name and current address.
- ii. If the bidder is a proprietary firm; the application shall be signed by the proprietor above his/her full type written name and the full name of his firm with its current address.
- iii. If the bidder is a firm in partnership, the application shall be signed by all the partners of the firm above their full type written names and current addresses or alternatively by a partner holding power of attorney for the firm. In the latter case, a certified copy of the Power of Attorney should accompany the application. In both the cases a certified copy of the partnership deed and

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current address of all the partners of the firm should accompany the application.

- iv. If the bidder is a Limited company or a corporation, the bid shall be signed by a duly authorized person holding Power of Attorney for signing the application and certified copy of such power of attorney shall also be furnished. The bidder should also furnish a copy of memorandum of articles of association duly attested by a Public Notary.

**f) Bid documentation**

- i. All information called for in the enclosed forms should be furnished against the relevant columns in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. Even, if no information is to be provided in a column, a 'Nil' or 'no such case' entry should be made in that column. If any particulars/query is not applicable in case of the bidder, it should be stated as 'Not applicable'. **The bidders are cautioned that not giving complete information called for in the application forms or not giving it in clear terms or making any change in the prescribed forms (or) deliberately suppressing the information may result in the bid being summarily disqualified.** Bid made by telegram or telex and those received late will not be entertained.
- ii. The bid should be type written. The bidder should sign & seal each page of application, forms and documents before scanning & uploading.
- iii. Over writing should be avoided. Corrections if any should be made by neatly crossing out, initialling, dating and rewriting. Pages of the eligibility criteria document are numbered. Additional Sheets if any added by the Bidder should also be numbered by him. They should be submitted as a package with signed letter of transmittal.
- iv. References, information and certificate from the respective Clients certifying suitability, technical knowledge or capability of the bidder should be signed by an officer not below the rank of **Executive Engineer or equivalent**.
- v. The bidder may furnish any additional information, which he thinks is necessary to establish his capabilities to successfully complete envisaged work. He is, however advised not to furnish superfluous information. No information shall be entertained after submission of eligibility criteria document unless it is called for by the HITES/ Client.

**2.3.6 Contents of Technical Package:**

The technical package has to be submitted in two parts.

**(A) Technical Package Part -I : shall comprise the following :**

- I. Online submission of e-tender processing fee/ tender document fee of Rs. 11,800/- (inclusive of GST). The e- tender fee is non-refundable.

**II. Bid Security**

- a. The Bidder shall submit EMD for an amount, as mentioned in Notice Inviting e-tender. MSME bidders shall submit the bid security declaration form attached along with this tender

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- b. The Bid securities of unsuccessful Bidders shall be discharged/ returned after expiry of the final bid validity and latest on or before the 30<sup>th</sup> day after the award of contract. However, in case of two packet or two stage bidding, bid securities of unsuccessful bidders during first stage , i.e, technical evaluation etc should be returned within 30 days of declaration of result of first stage ie, technical evaluation etc.
  - c. The Bid Security shall be forfeited if a bidder withdraws his bid during the period of bid validity or in the case of the successful bidder, if he fails to furnish the necessary performance security or enter into the Contract within the specified time limit.
  - d. The Bid Security Bank Guarantee of the successful bidder shall be returned after receipt of Performance Bank Guarantee as per Clause 1 of General Conditions of Contract (Volume-2).
- III. Form A: **Form of bid** along with Appendix to be typed on the letter head and duly signed and stamped by authorized person.
  - IV. Form D: Format for Power of Attorney for signing of proposal. In case bid is signed by Managing Director/Partner/Proprietor himself, Power of Attorney is not required. It is mandatory to mention on letterhead that the bid is duly signed and stamped by Managing Director / Partner / Proprietor.
  - V. Indemnity/ Undertaking/ Affidavits as per requirements (Form- G,H)
  - VI. Form F: Original Affidavit as per format at Form 'F' (L1 bidder shall submit the original affidavit within 15 days of award of work)
  - VII. Form "T-1"(Financial Information) – Annual Financial Statement for the last five years ending 2020-21
  - VIII. Form "T-2" (List of all works of similar nature successfully completed during the last seven years)
    - IX. Form "T-3" (List of Project under execution or award). Information in Form T-3 should be complete and no work should be left out.
    - X. Form "T-4" (Performance Report of Works)
    - XI. Form "T-5" (Structure and Organization)
    - XII. Form "T-6" (Details of Technical & Administrative personnel)
  - XIII. Copies of GST Registration or undertaking in this regard as per Clause 1.23.
  - XIV. Certificate of Registration for ESI, EPF and acknowledgement of up-to-date file return.
  - XV. The Integrity Pact & Agreement duly signed by the person authorized to sign the bid on behalf of the bidder. (As per Performa given in GCC).

"The Integrity pact annexed shall be part and parcel of this document, and has to be signed by bidder(s) at the pre-tendering stage itself, as a pre-bid obligation and should be submitted along with the Technical Bids. All the bidders are bound to comply with the

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Integrity Pact clauses. **Bids submitted without filling and duly signing the Integrity Pact & Agreement will be ab initio rejected without assigning reason."**

XVI. All pages of the entire tender document, Corrigendum/ addendum (if any)/ pre bid clarifications (if any) signed by the authorized person of the bidder(s).

**2.3.7 Contents of Financial Package**

The financial package (**VOLUME V-FINANCIAL BID/ PRICE BID**) should be submitted **ONLINE** only. Physical submission of financial bid will not be accepted and e-tender shall be rejected. The price quoted shall be excluding GST but include all applicable costs associated with the Project i.e. any out of pocket/ mobilization expenses, taxes& duties, Building and other Construction Workers welfare Cess and any other applicable statutory taxes, levies as per GCC applicable till the last stipulated date for the receipt of tender including extensions if any. In case Government levies/modifies any tax subsequently, the same will be adjusted plus/minus as the case may be. In case Government levies/modifies any tax subsequently the same will be adjusted plus/minus as the case may be. The Bidder must ensure to fill up price against each item of Price bid. If any cell is left blank then value of that cell shall be treated as "0" (ZERO).

However, in respect of GST, where ever legally applicable the same shall be paid by the contractor to the concerned Authorities as per the prevailing rules. The payment for any bills as per this contract shall be made for the total value of the works at the contract rate plus the GST @18% at the time of billing. Any variation in tax rate of GST (increase or decrease) after the last date of tender submission shall be adjusted at the time of settlement of bills. TDS and other deductions shall be made on payments excluding GST.

**2.3.8 Language of Bid**

The Bid and all related correspondence and documents relating to the Project shall be in English language.

**2.3.9 Currency of Bid**

Bid prices shall be quoted in Indian Rupees only. The amount mentioned elsewhere in the bid document will also deemed to be in Indian Rupees unless otherwise mentioned.

**2.3.10 Extension of Bid Validity**

Prior to the expiry of the original Bid Validity Period, HITES may, at its discretion, request Bidders to extend the Bid Validity Period for a specified additional period and also correspondingly extend the period of validity of Bid Security submitted in the form of a Bank Guarantee.

**2.3.11 Format and Signing of Bid**

- a. Bid documents (technical package/ bid Part II and financial package/ bid) shall be digital signed by a person duly authorized to sign the Bid documents. The Bidder shall also submit a power of attorney authorizing the person signing the documents.
- b. Entries to be filled in by the Bidder shall be typed or written in indelible ink.
- c. The complete Bid shall be without alterations, overwriting, interlineations or erasures except those to accord with instructions issued by Client, or as necessary to correct errors made by the Bidder. All amendments/corrections

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shall be initialed by the person or persons signing the Bid.

- d. All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be written below their signatures.

**2.3.12 Sealing and Marking of Bids**

- a. The Bid shall be submitted along with documents and mode of submission mentioned above in this section and also mentioned in the Checklist at Annexure - I of this volume I.

Please note that the price should not be indicated in any of the documents enclosed in Technical package part I, Technical Package part II and III. Non-compliance shall entail rejection of the Bid.

- b. In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures shall be accurately filled. In e-tendering, the intending bidder can quote his rates in figures only. The rates in words, amount of each item and total is generated automatically. Therefore, the rate quoted by the bidder in figures shall be taken as correct. In event no rate has been quoted for any item (s), it will be presumed that the contractor has included the cost of this/these items(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.

However, if a tenderer quotes nil rates against each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

Please note that the price should not be indicated in any of the documents enclosed in Envelope no. 1. Non-compliance shall entail rejection of the Bid.

**Rate of item quoted under any section of Bill of Quantity is interchangeable and minimum rate quoted for the same item under any section will be taken for payment.**

**2.3.13 Modifications/ Substitution/ Withdrawal of Bids**

- (a) No modification or substitution of the submitted Bid shall be allowed after last date of submission of bids.
- (b) The bidder may read the instructions in 'Vendor guide' in the e-tender portal for submission/ modification/ withdrawal of bids.

**2.3.14 Power of Attorney:**

Bidders shall submit, along with Technical Package, a power of attorney, on a stamp paper of appropriate value, in favour of the person signing the Bid documents authorizing him to sign the Bid documents, make corrections/ modifications thereto and interacting with HITES and act as the contact person. The format for the power of attorney shall be as per form D of Bid Document Volume-I. In case bids are signed by Managing Director/Partner/Proprietor himself, Power of Attorney is not required.

In the event of tender being submitted by a firm, it must be signed separately by each partner thereof or in the vent of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act 1932.

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**2.3.15 Bid Opening and Evaluation:**

**Bid Opening**

- i. The Bids will be opened in the presence of Bidders or their authorized representatives who may choose to attend on date & time as mentioned in Notice Inviting e-tender. If such nominated date for opening of Bid is subsequently declared as a public holiday, the next official working day shall be deemed as the date of opening of the Bid.
- ii. Bids for which an acceptable notice of withdrawal has been submitted shall not be opened.
- iii. Bids which have not complied with one or more of the foregoing instructions may not be considered.
- iv. On opening of the e-Bid, it will be checked if they contain Technical & Financial Bids and e-Tender Processing Fees and EMD/ Bid Security paid online, as detailed above.
- v. The Bidders name, the presence or absence of the requisite details as required or their authorized representative, may consider appropriate will be announced at the time of Bid opening.
- vi. Technical Package of the Bids will be opened first. These will be checked for completeness and confirmation of submission of the requisite EMD/Bid Security. If the documents do not meet the requirements of the e-Tender, a note will be recorded.
- vii. Technical evaluation shall be as per section IV, Evaluation Process.
- viii. Financial Package of all bidders whose bids are found responsive after Technical evaluation will be opened at a later date.

**2.3.16 Determination of Responsiveness**

- i. Prior to the detailed evaluation of Bids, Client will determine whether each Bid is responsive to the requirements of the tender.
- ii. For the purpose of this clause, a responsive Bid is one which:
  - a. have digital signature.
  - b. is accompanied by the power(s) of attorney if required
  - c. contains all the information as requested in the Bid Document
  - d. contains information in formats same/similar as those specified in this Bid Document
  - e. mentions the validity period of the offer
  - f. is accompanied by the Bid Security/ EMD,
  - g. conforms to all the terms, conditions and specifications of Tender without material deviation or reservation. "Deviation" may include exceptions and exclusions. A material deviation or reservation is one which affects, in any substantial way, the scope, quality, performance or administration of the works to be undertaken by the Bidder under the Contract, or which limits in any substantial way, HITES's rights or the Bidder's obligations under the Contract as provided for in Bid and/or is of an essential condition, the rectification of which would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids at reasonable price.

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- iii. If a Bid is not substantially responsive to the requirements of Bid, it will be rejected by HITES. The decision of the HITES in this regard shall be final and binding. The financial Packages of non-responsive Bidders shall not be opened.

**2.3.17 Evaluation of Bids**

- i. HITES would examine and evaluate responsive Bids, as per the criteria set out in this document at Section IV Evaluation Process
- ii. HITES reserves the right to reject any Bid if:
  - a. At any time, a material misrepresentation is made or uncovered; **or**
  - b. The Bidder does not respond within the stipulated time to requests for supplemental information/ clarifications required for the evaluation of the Bid; **or**
  - c. It is found that the information provided is not true or incorrect or facts/ material for the evaluation have been suppressed.

**2.3.18 Clarification of Bids**

- i. Evaluation of technical Bids submitted by Bidders shall be undertaken based on details submitted therein only. Bidder shall not be allowed to submit on their own, additional information or material subsequent to the date of submission and such material/ information, if submitted, will be disregarded. It is therefore essential that all details are submitted by the Bidder comprehensively, accurately and specifically in their technical Bid, avoiding vague answers. However, Evaluation Committee, if it so desires, reserves the right to seek any clarification from the Bidders on the information provided in the technical package. The request for clarifications and the response shall be in writing. No change/ addition in the information or substance of the Bid shall be sought, offered or permitted.
- ii. No change in the price or substance of the Bid shall be sought, offered or permitted except as required to confirm correction of arithmetical errors observed by the Evaluation Committee during the evaluation of Bids.

**2.3.19 Process to be Confidential**

- i. Except the public opening of the Bids, information relating to the examination, clarification, evaluation and comparison of Bids and recommendations concerning the award of Contract shall not be disclosed to Bidders or other persons not officially concerned with such process.
- ii. Any effort by a Bidder to influence HITES's Evaluation Committee/ Client in the process of examination, clarification, evaluation and comparison of Bids and in decisions concerning award of Contract, shall result in the rejection of their Bid.

**2.3.20 Award of Contract**

i. Award Criteria

HITES will declare the Bidder ranked L1 as Successful Bidder and proceed to issue Letter of Acceptance (LOA) as per the procedure mentioned in the Bid Document and terms and conditions set out in this Bid document.

To arrive L1, rates quoted for CMC for MGPS will not be considered. For CMC the successful bidder shall enter into a contract with the Client directly.

ii. Notification of Award

- a. Prior to the expiry of the period of Bid Validity, HITES will issue the Letter

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of Acceptance to the Successful Bidder, notifying him of being declared successful and the intent to sign the Contract Agreement with him. This letter (hereinafter and in the Conditions of Contract called 'the Letter of Acceptance') shall mention the sum which HITES, will recommend to pay to the Contractor in consideration of the completion and guarantee of the work to be performed by them, as prescribed therein (hereinafter and in the conditions of Contract called 'the Contract Price'). No correspondence will be entertained by HITES from the unsuccessful Bidders.

- b. The Letter of Acceptance shall constitute a part of the Contract.
- c. Upon submission of Performance Guarantee by the Successful Bidder, HITES will promptly notify the other Bidders and discharge/ return their Bid securities.

iii. Signing of Agreement

- a. HITES shall prepare the Contract Agreement in the Proforma (Form C) included in this document, duly incorporating all the terms of agreement between the two parties. Within **15 days** from the date of issue of the Letter of Acceptance the Successful Bidder will be required to execute the Contract Agreement in stamp paper of value as per the prevailing stamp duty as prescribed in the Kerala Stamp Act 1959. The successful bidder has to bear the cost of stamp paper.
- b. Prior to the signing of the Contract Agreement, the Successful Bidder shall submit Performance Guarantee.
- c. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board and Programme Chart (Time and Progress) in MS project or any other software as per direction of EIC and manpower deployment schedule within the period specified in schedule F.
- d. The Contract Agreement shall be duly signed by the HITES and the Contractor through their authorized signatories.
- e. In case the Successful Bidder does not sign the Contract Agreement, *HITES* reserves the right to cancel the selection process, forfeit any Bid Security and/or Performance Guarantee, as the case may be, submitted by the Successful Bidder and either re-Bid or proceed in any manner that it may deem fit.
- f. Contract agreement will be signed by the authorized signatories.

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**SECTION-III**  
**SCOPE OF WORK**

1. Bids are now invited for following scope of work:

The scope is to establish a Biosafety Level-II Lab for Institute of Advanced Virology, inside the existing building at Life Science park Thonnakkal, Thiruvananthapuram. The approximate area for development is 1650 Sqm

The scope of work includes Interior works, Plumbing works, Electrical works, ELV, HVAC, MGPS and furniture for seminar room as per drawings and specifications attached

The activities to be carried out for the completion of the Project shall include the following and any additional activities incidental to these:

- i. Scope of work as specified.
- ii. Submission of 3 sets of completion (i.e. 'as-built') drawings and other related documents, both a hard copy and the soft copy in Auto CAD or any other IT application used for the purpose.

2. **Approvals Required**

The contractor shall obtain all necessary approval from Agencies concerned as the case may be with related to/ required for execution/Completion. All expenditure on this account will be borne by the contractor. Statutory payment on this account will be reimbursed by the Client at actuals on production of payment receipts.

**SECTION IV**  
**EVALUATION PROCESS**

**4.1 Evaluation Process:**

The Bids will be evaluated in the following stages:

- i. Stage 1- Preliminary & Technical Evaluation
- ii. Stage 2- Financial Evaluation.

**4.2 Stage 1-Preliminary & Technical Evaluation**

- i. In Preliminary Stage, e-Tender Fee/ Processing Fee and EMD / Bid security declaration form will be checked online. E-Tender Fee / Processing Fee and EMD will be checked for veracity of Amount and Form as required by e-tender terms and conditions. If e-Tender Fee / Processing Fee and/or EMD submitted by any bidder is not as per e-tender terms and conditions, his bid will be rejected and will not be considered for further stages of evaluation.

**ii. Technical Evaluation**

a. Technical Bid – Eligibility Criteria

Bidders qualifying in Stage 1 will be considered for further evaluation and the Technical Bids shall be evaluated as per eligibility criteria detailed in Clause 1.4.1 and bidder's eligibility for the work shall be determined. If bidder is not meeting with the minimum eligibility criteria as detailed in Clause 1.4.1, his bid will be rejected and will not be considered for further stages of evaluation. The bidder shall also comply with the technical specification as per the tender document.

HITES, however, reserve the rights to restrict the list of such qualified bidders to any number deemed suitable by it.

- i. The financial Bid of only those Bidders who are technically qualified shall be opened.
- ii. The financial Bids of Bidders whose technical Bids are found unacceptable shall not be opened.
- iii. HITES shall notify all the technically qualified Bidders of their technical qualification indicating the date, time and venue for opening of financial Bids.

**4.3 Stage II-Financial Evaluation**

- i. Evaluation Committee shall open the financial Bid of the technically qualified Bidders in the presence of the Bidders/their authorized representative, who choose to attend, at the scheduled date and time.
- ii. On opening the financial Bids, the Evaluation Committee shall read out the financial Bid to all the Bidders and record the same.
- iii. The Evaluation Committee shall correct arithmetic errors, if any and sign the same. If any discrepancy is found between the amount in figures and the amount in words, the amount in words shall prevail.
- iv. If a tenderer quotes nil rates against each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

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- v. All the financial Bids shall then be ranked according to the financial Bid in increasing order with the Bidder quoting the least amount ranked L1, Bidder quoting next higher figure as L2 and so on.
- vi. L1 will be declared as Successful Bidder and his offer will be processed further.
- vii. (a) The financial bid of all eligible bidders as decided by HITES shall be opened and the decision of HITES will be final and binding.  
(b) The date and time of opening of financial bids shall be decided by HITES which will be intimated at an appropriate time.

**4.4 Letter of Acceptance:**

The Successful Bidder would be notified in writing by HITES by issuing the Letter of Acceptance (LOA) in favour of the Bidder.

FORM OF BID

**Name of the Work: Establishment of Biosafety Level II Lab for Institute of Advanced Virology, Thonnakkal, Trivandrum**

**Tender no. HITES/IDS/22/20 DATED 11.11.2022**

From

..... (Bidder)

To

**Deputy General Manager (ID)  
HLL Infra Tech Services Limited  
Golden Jubilee Block  
Poojappura P.O  
Thiruvananthapuram- 695 012**

Sir,

**Sub : Submission of Proposal**

Having visited the Site, ascertained the Site conditions and examined the General Conditions of Contract as well as Specific Conditions of Contract, Notice Inviting Bids, Instructions to Bidders etc. and addenda for the above project, we the undersigned, are pleased to submit our technical and financial Bid along with relevant documents.

1. We acknowledge that the Appendix forms an integral part of the Bid.
2. While preparing this Bid, we have gathered our own information and conducted our own inquiry/survey to our satisfaction and we did not rely solely on the information provided in the Bid Documents. We shall not hold HITES responsible on any account in this regard.
3. We hereby certify that all the statements made and information supplied in the enclosed forms and accompanying statements are true and correct.
4. We have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
5. I/We authorize Deputy General Manager (ID), HLL Infra Tech Services Limited or his/her representative to approach individuals, employers, firms and corporation to verify our solvency with the banker, competence, work experience, and general reputation.
6. We undertake, if our Bid is accepted, to commence the works within the stipulated time and to complete the whole of the works comprised in the Contract within the stipulated time calculated from the start date.
7. If our Bid is accepted, we will furnish a bank guarantee as Performance Guarantee for the due performance of the Contract. The amount and form of such guarantee or bond will be in accordance with as given in the General Conditions of the Contract.

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8. We are aware that in the event of delay in execution of the Project, beyond the agreed timelines due to reasons attributable to us, liquidated damages shall be recovered from us.
9. Our Bid is valid for your acceptance for a period of (120) ONE HUNDRED AND TWENTY DAYS from the last date of submission of the Bid as per the Bid Documents or any extension thereto.
10. We agree to the General Conditions of Contract and Technical Conditions of Contract and the terms and conditions mentioned in the Bid Documents.
11. We declare that we are not having any Litigation pending / in progress with HLL / HITES.
12. We declare that we have not made any suppression of facts for meeting the requirement of eligibility to bid.
13. We declare that the submission of this Bid confirms that no agent, middleman or any intermediary has been, or will be engaged to provide any services, or any other item of work related to the award of this Contract. We further confirm and declare that no agency commission or any payment, which may be construed as an agency, commission has been, or will be, paid and that the Bid price does not include any such amount. We acknowledge the right of HITES, if it finds anything to the contrary, to declare our Bid to be non-compliant and if the Contract has been awarded to declare the Contract null and void.
14. We understand that you are not bound to accept the lowest or any Bid you may receive.
15. If our Bid is accepted, we understand that we are to be held solely responsible for the due performance of the Contract.
16. We enclose;
  - a. All documents as per the checklist

- Note :
- i. The Appendix forms part of the Bid
  - ii. Bidders are required to fill up all the blank spaces in this form of Bid and Appendix.

Dated this.....day of.....**2022**

Signature .....

Name..... in the capacity of .....

duly authorized to sign Bids for and on behalf of.....

Address .....

Witness – Signature .....

Name .....

Address .....

### Certificate

**It is certified that the information given by us towards meeting the requirement of the eligibility to bid are correct. It is also certified that I/We shall be liable to be debarred, disqualified/ cancellation of enlistment in case any information furnished by me/us is found to be incorrect.**

**Date Seal of bidder**

**Signature of bidder**

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APPENDIX TO THE FORM OF BID

i.	(a) Amount of Performance Guarantee to be deposited by financially successful bidder	As per Clause 1 of GCC
	(b) Amount of Security Deposit	As per Clause 1 A of GCC
ii	Date for commencement of work	From the first date of handing over of the site or 15th day from the date of issue of issue of Letter of Acceptance (LOA), whichever is later
iii	Time for completion	03 months
iv.	Amount of compensation in case of extension of completion date due to delays by the Contractor	As per Clause 2 of GCC
v.	Defects Liability Period	5 years for Civil works and 3 years for Mechanical, Electrical & Electronics works from the date of completion of works as certified by Engineer in charge.
vi.	(a) Period of validity of Performance Guarantee	As per clauses of GCC
	(b) Period of validity of Security Deposit	As per clauses of GCC

Signature

(Authorized Signatory)

Date .....

Place .....

Name .....

Address .....

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**FINANCIAL INFORMATION**

**Name of bidder:**.....

**1. Financial Analysis**-Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last five years duly as submitted by the applicant to the Income tax Department (Copies to be attached) and duly certified by the Chartered Accountant mentioning the membership number issued by ICAI along with the full address.

**i) Gross Annual Turnover for last three years ending 31.03.2021**

Financial Year	Annual Turn Over in Indian Rupees ( or equivalent to Indian Rupees) as per Audited Balance Sheet
2018-19	Rs.
2019-20	Rs.
2020-21	Rs.
Average Annual Turnover over the past three years	Rs.

**ii) Profit / Loss for last Five years ending 31.03.2021**

Financial Information in Rs. Equivalent	For year 2016-17	For year 2017-18	For year 2018-19	For year 2019-20	For year 2020-21
1. Total Assets					
2. Current Assets					
3. Total Liabilities					
4. Current Liabilities					
5. Profit before Tax					
6. Profit after Tax					
7. Net Worth					

Signature of Chartered Accountant with Seal

Signature of Applicant.

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**DETAILS OF ALL WORKS OF SIMILAR NATURE COMPLETED**

**DURING THE LAST SEVEN YEARS ENDING LAST DAY OF THE MONTH PREVIOUS TO THE ONE IN WHICH TENDERS ARE INVITED**

Sl. No	Name of Work/ Project & location	Owner of sponsoring Organization	Cost of Work In Lakh)	Date of Commencement As per contract	Stipulated Date of completion	Actual date of completion	Litigation/ Arbitration Pending/ in Progress with details*	Name & address/ Telephone No. of officer to whom reference may be made	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

\* indicate gross amount claimed and amount awarded by the Arbitrator.

**Copy of work Orders and Completion Certificates (as per FORM T-4) of the above works should also be submitted with date of start and completion of project and quality of work.**

Signature of Applicant

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**SIMILAR WORK UNDER EXECUTION OR AWARDED**

<b>Sl. No</b>	<b>Name of Work/ Project &amp; location</b>	<b>Owner of sponsori ng Organiza tion</b>	<b>Cost of Wor k</b>	<b>Date of Commence ment As per contract</b>	<b>Stipulat ed Date of completi on</b>	<b>Uptodate Percentage Progress of Work</b>	<b>Slow Progress, If any, &amp; reasons Thereof</b>	<b>Name &amp; address/ Telephone No. of officer to whom reference may be made</b>	<b>Re ma rks</b>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Certified that above lists of works is complete and no work has been left out and that the information given is correct to my knowledge and belief.

Signature of Applicant

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**PERFORMANCE REPORT OF WORKS**  
**REFERRED TO IN FORM "T-2" TO "T-3"**

01.	Name of Contractor	
02.	Name of work / Project & Location	
03.	Agreement No.	
	Estimated Cost	
04.	Awarded Value of work	
05.	Cost on completion of work	
06.	Date of Start	
	Date of completion :	
07	i) Stipulated date of completion	
	ii) Actual date of completion	
08	Components of work	
	Civil	
	Electrical	
	Plumbing	
	Others	
09.	Whether case of levy of compensation for delay has been decided or not	Yes/ no
10.	If decided, amount of compensation levied for delayed completion, if any	
11.	<b>Performance Report :</b>	
	a) Quality of work	Excellent/Very Good / Good/ Satisfactory/ Poor
	b) Financial soundness	Excellent/Very Good / Good/ Satisfactory/ Poor
	c) Technical Proficiency	Excellent/Very Good / Good/ Satisfactory/ Poor
	d) Resourcefulness	Excellent/Very Good / Good/ Satisfactory/ Poor
	e) General behavior	Excellent/Very Good / Good/ Satisfactory/ Poor

Dated : \_\_\_\_\_

Executive Engineer or Equivalent

Addition ..... Deletion ..... Correction ..... Over Writing.....
---

**STRUCTURE & ORGANIZATION**

01.	Name & Address of the applicant	
02.	Telephone No. / Email id.	
03.	GST no.	
04.	Legal status of the applicant (attach copies of original document defining the legal status)	
	a) An Individual	
	b) A proprietary firm	
	c) A firm in partnership	
	d) A limited company or Corporation	
05.	Particulars of registration with various Government bodies ( <i>attach attested photocopy</i> )	
	<u>Organization / Place of Registration :</u>	
	1.	
	2.	
	3.	
06.	Names and Titles of Directors & Officers with designation to be concerned with this work	
07.	Designation of individuals authorized to act for the organization.	
08.	Was the applicant ever required to suspend construction for a period of more than six months continuously after you commenced the construction? If so, give the name of the project and reasons of suspension of work.	
09.	Has the applicant or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.	
10.	Has the applicant or any constituent partner in case of partnership firm, ever been debarred/	

	black-listed/penalized for Biding in any organization at any time? If so, give details.	
11.	Has the applicant or any constituent partner in case of partnership firm, ever been convicted by a Court of Law? If so, give details.	
12.	In which field of construction Services the applicant has specialization and interest?	
13.	Any other information considered necessary but not included above.	

Signature of Applicant

**DETAILS OF TECHINCAL & ADMINISTRATIVE PERSONNEL TO BE EMPLOYED FOR THE  
WORK**

<b>Sl. No</b>	<b>Designation</b>	<b>Total Number</b>	<b>Number Available For this Work</b>	<b>Name</b>	<b>Qualification</b>	<b>Professional experience and details of work carried out</b>	<b>How these would be involved in this work</b>	<b>Remarks</b>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Signature of Applicant

Addition ..... Deletion ..... Correction ..... Over Writing .....
--

**FORM OF PERFORMANCE BANK GUARANTEE**

(On a stamp paper of appropriate value from any Nationalised Bank or Scheduled Bank)

To,

**DEPUTY GENERAL MANAGER (ID)  
HLL INFRA TECH SERVICES LIMITED  
GOLDEN JUBILEE BLOCK  
POOJAPPURA PO,  
THIRUVANANTHAPURAM- 695 012**

Dear Sir,

In consideration of the HLL Infra Tech Services Limited for \_\_\_\_\_ (name of work) which expression shall include his successor and assignees, (herein after called HITES) having awarded to----- having its Office at .....and Registered Office at ----- (hereinafter referred to as "the said Contractor (s)", which expression shall include his successor and assignees) for the work of \_\_\_\_\_ Contract No. / LOA No.----- in terms interalia, of the and the General Conditions of Contract and upon the condition of the Contractor's furnishing Security for the performance of the Contractor's obligations and discharge of the Contractor's liability under and in connection with the said Contract up to a sum of Rs.-----Rupees -----) amounting to 50% of 3% percent of the total Contract value.

1. We, \_\_\_\_\_ (hereinafter called 'The Bank' which expression shall include its successors and assignees) hereby jointly and severally undertake to guarantee the payment to the HITES in rupees forthwith on demand in writing and without protest or demur or any and all moneys payable by the Contractor to the HITES in respect of or in connection with the said Contract inclusive of all the HITES's losses and damages and costs, (inclusive between attorney and HITES) charges and expenses and other moneys payable in respect of the above as specified in any notice of demand made by the HITES to the Bank with reference to this guarantee upto an aggregate limit of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only).
2. We \_\_\_\_\_ Bank Ltd. further agree that the HITES shall be sole judge of and as to whether the said Contractor has committed any breach or breaches of any of the terms and conditions of the said Contract and the extent of loss, damage, cost, charges and expenses caused to or suffered by or that may be caused to or suffered by the HITES on account thereof and the decision of the HITES that the said Contractor has committed such breach or breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered by the HITES from time to time shall be final and binding on us.
3. The HITES shall be at liberty without reference to the Bank and without affecting the full liability of the Bank hereunder to take any other Security in respect of the Contractor's obligations and liabilities hereunder or to vary the Contract or the work to be done there under vis-a-vis the Contractor or to grant time or indulgence to the Contractor or to reduce or to increase or otherwise vary the prices of the total Contract value or to release or to forbear from enforcement of all or any of the Security and/or any other Security(ies)

Addition .....
Deletion .....
Correction .....
Over Writing .....

now or hereafter held by The HITES and no such dealing(s) reduction(s) increase(s) or other indulgence(s) or arrangements with the Contractor or release or forbearance whatsoever shall absolve the bank of the full liability to the HITES hereunder or prejudice the rights of the Employer against the bank.

4. This guarantee shall not be determined or affected by the liquidation or winding up, dissolution, or change of constitution or insolvency of the Contractor but shall in all respects and for all purposes be binding and operative until payment of all monies payable to the HITES in terms thereof.
5. The bank hereby waives all rights at any time inconsistent with the terms of this guarantee and the obligations of the Bank in terms hereof shall not be anyway affected or suspended by reason of any dispute or disputes having been raised by the Contractor stopping or preventing or purporting to stop or prevent any payment by the Bank to the HITES in terms hereof.
6. The amount stated in any notice of demand addressed by the HITES to the Bank as liable to be paid to the HITES by the Contractor or as suffered or incurred by the HITES on account of any losses or damages or costs, charges and/or expenses shall be conclusive evidence of the amount so liable to be paid to the HITES or suffered or incurred by the HITES as the case may be and shall be payable by the Bank to The Employer in terms hereof.
7. This guarantee shall be a continuing guarantee and shall remain valid and irrevocable for all claims of the HITES and liabilities of the Contractor arising upto and until midnight of \_\_\_\_\_.
8. **This guarantee is valid till \_\_\_\_\_(date to be mentioned) (Sixty days beyond the stipulated date of completion or the extended period, thereof)**
9. This guarantee shall be in addition to any other guarantee or Security whatsoever that the HITES may now or at any time anyway may have in relation to the Contractor's obligations/or liabilities under and/or in connection with the said Contract, and the HITES shall have full authority to have recourse to or enforce this Security in preference to any other guarantee or Security which the HITES may have or obtain and no forbearance on the part of the HITES in enforcing or requiring enforcement of any other Security shall have the effect of releasing the Bank from its full liability hereunder.
10. It shall not be necessary for the HITES to proceed against the said Contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank notwithstanding that any Security which The HITES may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the said bank hereunder be outstanding or unrealised.
11. We, the said Bank undertake not to revoke this guarantee during its currency except with the consent of the HITES in writing and agree that any change in the constitution of the said Contractor or the said bank shall not discharge our liability hereunder.
12. We \_\_\_\_\_ the said Bank further that we shall pay forthwith the amount stated in the notice of demand notwithstanding any dispute/difference pending between the parties before the arbitrator and/or that any dispute is being referred to arbitration.
13. Notwithstanding anything contained herein above, our liability under this guarantee shall be restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) and this guarantee shall remain in force till \_\_\_\_\_ and unless a claim is made on us within 3 months from that date, that is before \_\_\_\_\_ all the claims under this guarantee shall be forfeited and we shall be relieved of and discharged from our liabilities there under.

Notwithstanding anything contained herein above:

Addition .....
Deletion .....
Correction .....
Over Writing .....



- (a) Our liability under this Bank Guarantee shall not exceed Rs. -----  
(Rupees -----)
- (b) This Bank Guarantee shall be valid up to -----
- (c) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before ---  
-----at (bank address)otherwise, all your rights under this guarantee shall be forfeited and bank shall be relieved and discharged from all the liabilities there under irrespective of whether or not the original bank guarantee returned to us or not

Dated \_\_\_\_\_ day of \_\_\_\_\_ 2022

For and on behalf of Bank.

Issued under seal :

**FORM OF AGREEMENT**

(On a stamp paper of appropriate value as per the prevailing stamp duty as prescribed in Kerala stamp act 1959 amended from time to time or as per requirement of Client. Contractor shall bear the cost of stamp paper )

**Agreement No.....**

This agreement is made at ..... on the ..... day of ..... 2021 between **M/s HLL Infra Tech Services Ltd (HITES)** which expression shall, unless repugnant to the context or meaning thereof be deemed to mean and include its successors, legal representatives and assigns of the **First Part.**

**AND**

M/s ----- a Company incorporated under the Companies Act 1956 having Head Office at ----- and Office at -----, (hereinafter called the "Contractor" which expression unless repugnant to the context shall mean and include its successors-in-interest assigns etc.) of the **Second Part.**

Whereas HITES is desirous that certain works should be executed, for \_\_\_\_\_ hereinafter called the "The Project" and has accepted a Tender submitted by the contractor for the execution and completion of such works as well as guarantee of such works and the remedying of defects therein.

NOW THIS AGREEMENT WITHNESSTH as follows:

1. In this agreement words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and constructed as part of this agreement Viz.

**Volume - I (NIT &Instructions to Bidders)**

**Volume- II (GCC)**

**Volume - III (SCC)**

**Volume - IV (Technical Specifications)**

**Volume - V (Bill of Quantities)**

**Volume - VI (Drawings)**

**All the correspondence till award of contract i.e. addendum, minutes, LOA etc.**

**Technical and Financial bids submitted by bidder.**

3. In consideration of the payment to be made to the Contractor as hereinafter mentioned, the Contractor hereby covenants with HITES to executed and complete the Project by ----- and remedy and defects therein in conformity in all respects with the provisions of the Contract.

Addition .....
Deletion .....
Correction.....
Over Writing.....

4. Whereas HITES has accepted bid/ negotiated Bid for the above mentioned work for an amount of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ Only). The above bid/ negotiated bid amount is inclusive of all prevailing taxes including, Building and other Construction Workers welfare Cess and any other applicable statutory taxes, levies and excluding Goods and Services Tax as per terms & conditions of Bid document.
5. The payment to the contractor will be made by Client based on the recommendation of HITES in consideration of the execution and completion of the Project and the remedying of defects therein, the total Contract Price of Rs. ----- only) being the sum stated in the letter of Acceptance(LOA) subject to such additions thereto or deductions there from as may be made under the provisions of the Contract at the times and in the manner prescribed by the Contract.
6. OBLIGATION OF THE CONTRACTOR
- The Contractor shall ensure full compliance with tax laws of India with regard to this Contract and shall be solely responsible for the same.

IN WITNESS OF WHEREOF the parties hereto have caused their respective common seals to be hereunto affixed / (or have hereunto set their respective hands and seals) the day and year first above written.

For and on behalf of the Contractor SIGNED, SEALED AND DELIVERED	For and on behalf of the HITES SIGNED, SEALED AND DELIVERED
Signature of the authorized official	Signature of the authorized official
Name of the Contractor Stamp / Seal of the Contractor	Name of the official Stamp / Seal
in the presence of:  Witness _____ Name _____ Address _____	in the presence of:  Witness _____ Name _____ Address _____

Addition ..... Deletion..... Correction..... Over Writing.....
---

**FORMAT FOR POWER OF ATTORNEY FOR SIGNING OF PROPOSAL FOR AUTHORIZED SIGNATORY**

Know all men by these presents, we ..... (Name of the Tenderer and address of their registered office) do hereby constitute, appoint and authorize Mr / Ms.....(name and residential address of Power of Attorney holder) who is presently employed with us and holding the position of ..... as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Bid for the Project and submission of all documents and providing information / responses to \_\_\_\_ \_\_\_\_, representing us in all matters before \_\_\_\_ \_\_\_\_, and generally dealing with \_\_\_\_ \_\_\_\_, in all matters in connection with our proposal for the said Project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

For ..... (name of authorised representative of firm)

Witness:.....

Accepted :..... (signature & details of POA holder)

**AFFIDAVIT**

**(To be prepared in a 100 rupee non-judicial stamp notarized, duly signed and sealed by the authorized signatory)**

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that our firm M/s \_\_\_\_\_ have neither abandoned any contract awarded to us nor such works have been rescinded, during the last five years prior to the date of this application.
3. The undersigned also hereby confirm that M/s \_\_\_\_\_ have not been under blacklisting or debarred or penalised from bidding by any government agency or public sector undertaking or judicial authority/arbitration body as on last date of submission of bid
4. The undersigned hereby authorize (s) and request (s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
5. The undersigned understands and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the HITES.
6. The undersigned hereby confirmed that if the work is awarded to us, the work will be executed with utmost quality and in case of any rectification suggested by Client/HITES at any stage of work due to poor quality, the same will be re executed by us at free of cost.
7. The undersigned undertake that 'I/We have not altered/ modified the financial bid attached in the HITES e-tender portal. If it is found during the tender stage or later that the BOQ is modified by us, the HITES shall have the right to reject our bid'.
8. The undersigned hereby confirmed that 'The work if awarded to us will be directly executed by us and subcontractors will be employed only for specialized works after getting the concurrence of HITES'.
9. The Undersigned hereby confirmed that we are not having any Litigation pending / in progress with HLL / HITES.
10. The Undersigned hereby confirmed that we have not suppressed any fact for being eligible to bid.

Signed by an Authorised Officer of the Firm

**UNDERTAKING**  
**(In letter head of bidder)**

We do hereby indemnify HITES/Client, against all penal action that may be levied/effected by any concerned authority for default in any labour regulation/PF/ESI and other statutory requirements of the relevant Acts/Laws related to the work of the contractor and will bear the legal charges, if any, and will pay the legal charges/dues directly to the concerned authority.

Signed by an Authorised Officer of the Firm

Addition .....
Deletion .....
Correction .....
Over Writing .....

**FORMAT FOR EMD/ BID SECURITY BANK GUARANTEE**

(On a stamp paper of appropriate value from any Nationalised Bank or Scheduled Bank)

To  
DEPUTY GENERAL MANAGER (IDD)  
HLL INFRA TECH SERVICES LIMITED  
GOLDEN JUBILEE BLOCK  
POOJAPPURA PO, THIRUVANANTHAPURAM- 695 012

WHEREAS, Bidder..... (Name of Bidder) (herein after called "the Bidder") has submitted his bid dated ..... (date) for the \_\_\_\_\_ (Name of work) (herein after called "the bidder")

KNOW ALL PEOPLE by these presents that we..... (Name of bank) having our registered office at..... (herein after called "the Bank") are bound unto DEPUTY GENERAL MANAGER (ID), HLL Infra Tech Services Limited (HITES), Thiruvananthapuram-695 012 in the sum of Rs. .... (Rs. in words ..... ) for which payment well and truly to be made to the said DEPUTY GENERAL MANAGER (IDD), the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this .....day of ..... 2021 THE CONDITIONS of this obligation are:

- 1) If after bid opening ..... of bid; the Bidder withdraws, his bid during the period of validity of bid (including extended validity of bid) specified in the Form of Bid;
- 2) If the Bidder having been notified of the acceptance of his bid by HITES.
  - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidder, if required;
  - or
  - (b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of bid document and Instructions to Bidder,

We undertake to pay to the unto DEPUTY GENERAL MANAGER (ID), HLL Infra Tech Services Limited (HITES), Thiruvananthapuram-695 012 either up to the above amount or part thereof upon receipt of his first written demand, without the DEPUTY GENERAL MANAGER (ID) having to substantiates his demand, provided that in his demand the DEPUTY GENERAL MANAGER (ID) will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date (\*) after the deadline for submission of bid as such deadline is stated in the Instructions to Bidder or as it may be extended by the DEPUTY GENERAL MANAGER (ID), notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE .....

WITNESS .....

(SIGNATURE, NAME AND ADDRESS)

SIGNATURE OF THE BANK

SEAL

(\*) Date to be worked out on the basis of validity period of 6 months from the last date of uploading the bid.

Addition .....
Deletion .....
Correction .....
Over Writing .....

**Proforma for Earnest Money Deposit Declaration for MSME Bidder**

Whereas, I/we .....(name of agency) have submitted bids for ..... (Name of work). I/we hereby submit following declaration in lieu of submitting Earnest Money Deposit.

(1) If after the opening of tender, I/we withdraw or modify my/our bid during the period of validity of tender (including extended validity of tender) specified in the tender documents,

Or

(2) If, after the award of work, I/we fail to sign the contract, or to submit performance guarantee before the deadline defined in the tender documents, I/we shall be suspended for one year and shall not be eligible to bid for tenders invited by HITES from date of issue of suspension order.

Signature of the Bidder

**(Note: The declaration shall be submitted by the MSME bidders in Rs.10/- non judicial stamp paper duly signed & sealed by the authorized signatory bidder and notarized)**

Addition .....
Deletion .....
Correction .....
Over Writing .....



**Checklist****CHECK LIST OF DOCUMENTS TO BE SUBMITTED WITH THE BID****TECHNICAL PACKAGE - Part I**

S.No.	Name of Document	Mode of submission	Page No.
1.	Non-refundable fee of Rs. 11,800/-(inclusive of GST) only as e-tender processing fee	<b>Online</b>	
2.	Bid Security/EMD of Rs. 1,00,000/-		
3.	Form of bid and Appendix (Form A) for the bid		
4.	Power of Attorney (Form D) in favour of the person signing the Bid		
5.	Affidavit by Bidder (Form F) on a Rs.100/- non judicial stamp paper duly notarized, to this effect, as per prescribed format		
6.	Affidavit/ Indemnity / Undertaking (Form G)		
11.	Form "T-1" (Financial Information)		
12.	Form "Form T-1-B" Solvency Certificate - Not applicable		
13.	Form "T-2" (Details of works)		
14.	Form "T-3" (Project under execution of award)		
15.	Form "T-4" (Performance Report of Works)		
16.	Form "T-5" (Structure and Organization)		
17.	Form "T-6" (Details of Technical & Administrative personnel)		
18.	Copies of GST Registration as per clause 1.23/ ESI/EPF registration		
19.	Integrity Pact and Agreement duly filled and signed by the authorized signatory on behalf of the bidder (as per Performa given in GCC Vol-II)		
20.	All pages of the entire tender document/ Corrigendum/ addendum (if any)/ pre bid clarifications (if any) signed by the authorised person of the bidder/bidder.		
21.	Bid Security declaration by MSME bidders		
22.	Any other document as specified in the tender document		

**FINANCIAL PACKAGE COMPRISING OF:**

S.No	Name of Document	Mode of submission	Page No.
1.	Signed bid / Price Bid (Bill of Quantities - Volume-V)	Online	

**END OF VOLUME – I  
(LAST PAGE)**

Addition .....
Deletion.....
Correction.....
Over Writing.....

**HLL INFRA TECH SERVICES LIMITED**

**(Subsidiary of HLL Lifecare Ltd., A Government of India Enterprise)**

**TENDER**

**FOR**

**ESTABLISHMENT OF BIOSAFETY LEVEL II LAB FOR INSTITUTE  
OF ADVANCE VIROLOGY, THONNAKKAL, TRIVANDRUM.**

**Volume- IV**

**TECHNICAL SPECIFICATION**

**Tender No. HITES/IDS/22/20 DATED 11.11.2022**



Golden Jubilee Block, HLL Bhavan,  
Poojappura P.O

Thiruvananthapuram

Ph: 0471 -2775500

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## **CHAPTER A**

### **1. BRIEF**

The Institute of Advanced Virology (IAV) is an autonomous institution under the Department of Science and Technology; Government of Kerala functioning at Bio 360 Life Sciences Park, Thonnakkal, Thiruvananthapuram. This Institute undertakes high-end research in the area of basic as well as translational virology to study viruses and viral infections in a multifarious approach. The Institute plans to establish a BSL II facility towards handling and conducting research on highly infectious pathogens.

### **2. SCOPE OF WORK:**

The scope is to establish a Biosafety Level-II Lab for Institute of Advanced Virology, inside the existing building at Life Science park Thonnakkal, Thiruvananthapuram. **The approximate area for development is 1650 Sqm**

The scope of work includes Interior works, Plumbing works, Electrical works, ELV, HVAC, MGPS and furniture for seminar room as per drawings and specifications attached

#### **2.1 Civil work**

1. The access to the lab is from Staircase and lift located in the east and west end of the floor and it leads to a 4.5m wide corridor.
2. On the both sides of the corridor, it arranged with seminar room and Meeting Rooms on the western side and Toilet Block, Main Autoclave & RO Plant and meeting Room at the both eastern side
3. Corridor leads to the Main Lab area with a 3M wide service corridor at the centre and on both sides of it was arranged of labs with cell culture room and Workspace with Cabins equally.
4. Lab area is a linear Rectangular in Shape having Longer edges in the North and South Directions.
5. There are 8 Labs with Cell Culture Room and 8 workspaces with Cabins in the lab area and on the corners 2 Cold Rooms and 2 ICE making Machine rooms area planned symmetrically on the either side of the service corridor.
6. Also 1.8 M wide Corridor along the lab separates the workspace for the circulation.

## FINISHES AND MATERIALS

1. When it comes to the Finishes, Granite Flooring is Provided in the Seminar Room and Meeting Room on the western side and it continues to Main Autoclave & RO Plant on the Eastern Side Through the 3M wide Service Corridor in the Lab.
2. Inside of the lab and Cell Culture Rooms are given with Seamless Finished Epoxy Resin Flooring and walls are partitioned with 100 mm Drywall Partition with Metal stud framework, Mineral wool core & fibre Cement Board at 2700mm height.
3. The above said 100 mm thick Drywall partition is used inside the lab area for the Cabin separations and Ice making Machine Rooms and Cold Rooms.
4. 600 x 600 mm vitrified Tiles are provided in the Workspaces, Cabins and 1.8M corridor spaces.
5. Frameless toughened partitions with patch fittings and with Glass Door are provided in seminar Room, Meeting Rooms and Cabins and Window Openings are provided with fixed Glass panel of 8mm thick Clear float glass with MDF jamb around.
6. Flush doors with Wooden Frame and Glazed Panel of different Sizes are provided in the Lab, Cell Culture Room, Seminar Room and Main Autoclave and RO plant Room.
7. The Ceiling is already completed with Metallic Ceiling and it needs to be Dismantled for the Partition of Dry Walls and Reinstalled after the partition.

## **2.2 PLUMBING WORKS**

### System Requirements

RO Plant is required for the lab sinks in accordance with World Health Organization (WHO) standards.

Domestic water supply shall be through the HPNS system.

Sewage and sullage collection and conveyance system based on ASPE (American Society of Plumbing engineers) standard and applicable guidelines by NBC)

### **Water Distribution**

The primary source of water shall be from the OH tank in the terrace floor. The domestic tank out let pipe is connected to the RO plant unit through a feed pump. A 1000 LPH unit is considered for the lab sinks to meet the requirements. Since the RO plant and lab are in the

same floor , a HPNS system is recommended to attain the required pressure in the fixtures. The back wash from the RO unit is connected to External drainage system.

All water piping material proposed is as follows:

- i) Main Runs - horizontal/vertical : CPVC
- ii) Concealed in wall chases : CPVC
- iii) Plant Room : CPVC/UPVC

### **Sewage, sullage and storm water drainage**

The following parameters/ site conditions shall be kept in mind during the construction of drainage system:

1. Natural slope of the area;
2. Layout of different facility in the complex;
3. Soil condition;
4. Provision of venting arrangement for manholes;
5. Construction of manholes and laying of pipes considering ground condition;
6. Termination of vent cowl;
7. Provision of adequate slope for horizontal header in the under slung pipes. The sanitary, waste and vent system will be watertight and gas tight designed to prevent escape of foul gas and odor from various fixtures. Provision of ASP vertical vent shall be made for hygiene, safety considerations, and to avoid entry of foul smell into occupied areas.

Vent system will be constructed to facilitate escape of gases and odour from all parts of sanitary and waste system to the atmosphere at a point above the building and to allow admittance of air to all part of the system, so that back pressure conditions do not cause loss of seal at traps. PVC 6kg/sqcm pipe is proposed for drainage system. The drainage pipes are to be connected to the existing manholes in the site.

## **2.3 ELECTRICAL & ELV SERVICES**

### **2.3.1 Electrical works**

- i. Lighting in the proposed BSL II lab is already executed and minor works like on/off control shall be done as per the interior partition and to achieve ease of operation by the end user.
- ii. In case of power failure, minimum illumination by means of emergency light fixtures fed from UPS connected circuits is ensured also.
- iii. Power points to be provided as per Tender drawings at designated places which will cater power to all equipment/services to be placed in the entire area.
- iv. UPS fed power points are also considered at specified locations. A 60 kVA UPS with 30 minutes backup time is proposed to connect all workstations and other critical equipment as informed by the client.
- v. Sufficient number of distribution boards catering raw & UPS power to be provided for distribution of power from existing panel located in this floor

### **2.3.2 ELV services**

- i. Telephone system consists of wiring using CAT6 UTP wire to facilitate IP telephone services including patch Panels and POE switches & network racks
- ii. Data system consists of wiring using CAT6 UTP wire to facilitate network connectivity including patch Panels and managed Ethernet switches & network racks
- iii. IP based CCTV system including dome and bullet cameras at entry and exit locations, corridors etc. Other components like patch panel, POE switches and network racks are also included.
- iv. IP based Access control system for Main entry doors(2nos) for both entry & exit, controller, server PC with necessary software. Provision of card reader (conduit only) for one no of door for each lab is also considered
- v. AV system in seminar room having VC facility, speakers, amplifiers for audio system.



## **2.4 HVAC**

- i. The air conditioning works for the labs were already done with a centralized VRF System. Each lab is served with 2 no's of cassette units having capacity 3 Ton
- ii. Each Cell Culture Room is served with 1 no of cassette units having capacity 1.5 Tr.
- iii. The office areas were served with AHUs and individual cabins were air conditioned with Hi Wall units.
- iv. The meeting Rooms, Conference hall etc. were air conditioned with Cassette Units.
- v. Each lab is equipped with a ducted Exhaust System having 1500 CFM capacity for extracting the fumes etc. from the Lab, if required. This fan is controlled by a speed regulator, for using the same as per the requirement. The room air exhaust from the cell culture is provided with a HEPA Filter and is connected to this unit.
- vi. Separate exhaust system is considered for the Biosafety cabinets. This exhaust system is provided with UV Filter for confirming the disinfection of exhaust air.

## **CHAPTER B**

### **TECHNICAL SPECIFICATIONS - CIVIL WORKS**

#### **PLAIN CEMENT CONCRETE WORK:**

#### **STONE AGGREGATE:**

- 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.

#### **SAND/ M Sand**

- Sand/ M Sand to be used for the work shall be of as specified in CPWD Specifications. Sand/ M 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.

- Nothing extra shall be paid for screening or washing the sand/ M Sand as prescribed above.

#### **FLYASH**

- Flyash conforming to grade 1 of IS 3812 (Part 1) may be used as part replacement of OPC provided uniform blending with cement is ensured in accordance with clauses 5.2 and 5.2.1 of I.S.456-2000 in the items of BMC and RMC. However this shall not override the provisions of the respective items.

## **CEMENT:**

- The contractor shall procure 43/ 53 grade ordinary Portland cement [grade as per design/ drawings/ 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 relevant 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 godown 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.
- Double lock provision shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer-in-Charge or his authorized representative and the keys of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at any time.
- The cement shall be got tested by the Engineer-in-charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laboratories. The cost of tests shall be borne by the contractor/Department in the manner indicated below: (a) By the contractor, if the results show that the

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

- The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to made.
- The cement brought to the site and the cement remaining unused after completion of the work shall not be removed from site without the written permission of the Engineer-in- charge.
- The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-charge. If he does not do so within 3 days of receipt of such notice, the Engineer-in charge shall get it remove at the cost of the contractor.
- Engineer –in- charge may change the brand of Cement depending upon availability in local market, if needed. Instructions in this respect can be issued by them at regular intervals.

### **Solid/Hollow Block Work**

- 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.
- 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 walland shall confirm to IS 2185.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

**CEMENT PLASTER: -**

- The cement plaster shall be 12 mm, 15 mm or 20 mm thick as specified in the item. The use of PP Cement shall be preferred.
- Finish: The plaster shall be finished to a true and plumb surface and to the proper degree of smoothness as required. The work shall be tested

frequently as the work proceeds with a true straight edge not less than 2.5 m long and with plumb bobs. All horizontal lines and surfaces shall be tested with a level and all jambs and corners with a plumb bob as the work proceeds. Precaution : Any cracks which appear in the surface and all portions which sound hollow when tapped, or are found to be soft or otherwise defective, shall be cut out in rectangular shape and redone as directed by the Engineer-in-Charge. (i) When ceiling plaster is done, it shall be finished to chamfered edge at an angle at its junction with a suitable tool when plaster is being done. Similarly when the wall plaster is being done, it shall be kept separate from the ceiling plaster by a thin straight groove not deeper than 6 mm drawn with any suitable method with the wall while the plaster is green. (ii) To prevent surface cracks appearing between junctions of RCC column/beam and walls, 150 mm wide chicken wire mesh should be fixed with U nails 150 mm centre to centre before plastering the junction. The plastering of walls and beam/column in one vertical plane should be carried out in one go. The rate for plastering items shall be inclusive of this.

#### **PAINT**

- Low VOC paints shall be used for Exterior. Interior painting shall be done as per BOQ and CPWD specifications.

#### **WOOD WORK:**

- Timber required for shutters of doors, windows, ventilators, partitions etc shall be as per Bill of Quantities and CPWD Specification.
- The moisture contents of the wood used in the work shall not be more than that stipulated in the relevant clause of Latest CPWD Specifications for works. The rate quoted for various items shall be inclusive of kiln seasoning and preservative treatment of wood. In all other respects the wood used in the work shall conform to the provision in latest CPWD specification for works.
- The sample of species to be used shall be deposited by the contractor with the Engineer- in – charge before commencement of the work. The contractor shall produce cash voucher and certificate from standard kiln seasoning plant operator about the timber section to be used on the work having been kiln seasoned by them failing which it would not be so accepted as kiln seasoned.

#### **Glass :-**

- Transparent sheet glass (Float glass) conforming to IS 1761 – 1970 shall be used.

- Minimum thickness shall be governed as under, unless otherwise specified in the item.

<b>AREA of Glazing</b>	<b>Max. Unsupported length</b>	<b>Thickness</b>
For glazing area up to 0.5 sqm	120 cm	6.0 mm
For glazing area more than 0.5 sqm	120 cm	6.0 mm/ 8 mm

- Glazing for toilet and in fixed ventilators shall be of frosted type.

**Shutters:-**

- Factory made shutters, as specified shall be obtained from factories to be approved by the Engineer – in - charge and shall conform to IS 2202 (Part – I) 1977. The contractor shall inform well in advance to the Engineer – in – charge the name address of the factory from where the contractor intends to get the shutters manufactured.
- The contractor will place order for manufacture of shutters only after written approval of Engineer – in – charge in this regard is obtained. The contractor is bound to abide by the decision of the Engineer – in-charge. In case the factory already proposed by the contractor is not found competent to manufacture quality shutters, the Engineer – in – charge will recommend the name of another factory from the approved list.
- The contractor will also arrange stage wise inspection of the shutters at factory with the Engineer in charge or his subordinate authorized representatives. Contractor will have no claim, if the shutters brought at site are rejected by the Engineer in charge in part or in full lot due to bad workmanship/ quality or damages caused during their shifting from factory to site. Such shutters will not be measured and paid and the contractor shall remove the same from the site of work within 7 days after the written instruction in this regards are issued by the Engineer in charge or his authorized representatives.

**STEEL GRILL WORK:**

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

## **ALUMINIUM WORKS/ UPVC WORKS**

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

### **Materials:-**

- The members will be made out of aluminium 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.
- UPVC members shall be made of PVC material conforming to IS: 10151.
- 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.
- The weight of sections and the corresponding catalogue numbers are mentioned. The IS specifications are to be strictly adhered.
- The extruder using recycled materials may be preferred.
- The alloy of extruded aluminium should be BS or IS old HE9, Alcon 50 SWP. to this effect test certificate has to be provided for the extruder.

### **Finishing:**

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

- 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.

**Fabrication:**

- 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 – incharge 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.
- 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,
- 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.
- 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 the Engineer – in
- charge shall be final and binding on the contractor.
- 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.
- All fabricated/finished items shall be packed and carted properly to site to prevent any damage in transit. On receipt at site they shall be carefully stacked in protected storage to avoid distortion/damage.
- 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.
- 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.

- **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.

## **GLASS ENTRANCES AND GLAZING WITH PATCH FITTING**

### **GENERAL**

- The contractor shall be responsible for design, fabrication, supply, installation, test and guarantee of all items including taking all measures that may be required to complete the work as per Architectural concept drawings and specifications details.
- The specialist agency engaged to carry out the external glazing installation and supply shall have at least 5 years of relevant experience and have completed external glazing systems of similar nature and equivalent scale of works as shown in the tender documents.
- The specialist contractor shall submit an outline of recent comparable works (illustrated by appropriate drawings, sketches, photographs, brochures) by the firm/ its technical partner to illustrate the competence, experience and suitability of the firm.

### **The scope of work shall include:**

- Design, preparation of shop drawings, calculations, engineering data and test reports.
- Fabrication and installation of Glass Entrances and Glazing with Patch Fittings system.
- All anchors, fixings, attachments, reinforcements, steel reinforcing for mullions and transoms required for a complete installation, except those specifically indicated as being provided by other trades.
- Exposed Architectural mullions and other support members.
- Finishes, protection coatings and treatments.
- Sealing with approved sealants within and around the perimeter.
- All thermal insulation, firesafing etc. including supports and/or backing.

- All caulking, sealing, electrometric and metal flashing, and gaskets including sealing at junctions with roof, ground-floor waterproofing and building expansion joints between structures.
- Electrical bonding and earthing of all metal cladding elements.
- Provisions to receive electrical outlets and cutouts for conduits and other electrical work.
- Glass and glazing.
- Transportation, storage, handling, protection and cleaning.

### **SUBMITTALS**

- Product Data: Include construction details, material descriptions, dimensions of individual components, profiles and finishes.
- Shop Drawings  
**Fabrication and installation details, including followings**
- Plans, elevations and sections.
- Details of fittings and glazing.
- Hardware quantities, locations and installation requirements.
- Sample for verification, for each type of exposed finish required for
- Metal finish: 150mm long section of patch fittings, rails and other items.
- Glass: 150mm square, showing exposed edge finish.

### **MATERIALS**

#### **Glass**

- Glass shall be as specified in drawing or BOQ or as per design requirement. It shall be Indian/ imported hard coated reflective bronze and heat strengthened glass. It shall be of approved make.
- In toughening of Glass, rolling direction shall be parallel to the width of the glass panel such that waviness if any is parallel to the horizontal and no waviness parallel to the vertical and to ensure that such waviness is of negligible order.
- Components
- Patch fittings: Stainless steel
- Floating Transom Bar: Steel clad in metal matching fittings and in sizes recommended by manufacturer for application indicated. Include stainless steel support rods, lateral adjustment and ceiling channel. Support fins to be

metal, finished to match transom bar.

- Rails: Stainless steel
- Accessory Fittings : Matching with patch fittings and rails metal and finish for overhead door stop, Centre hosing lock, glass support fin brackets and other as shown in drawing.
- Anchors and fastenings: Concealed
- Weather stripping: Sweep type
- Hardware
- Hardware should be heavy duty in matching finish
- Concealed Floor Closer and Top Pivots
- Centre hung; BHMA A156.4, Grade 1; including cases, bottom arm, top walking beam pivots, plates, and accessories required for complete installation.
- Swing : Double acting; Positive dead stop, concealed with hold open angle
- Delayed action closing
- Concealed Overhead Holder: Grade 1, with dead stop setting coordinated with concealed floor closer.
- Push-pull set : Stainless steel finish
- Lock set of approved make.

### **FABRICATION**

- Provide holes and cutouts in glass to receive hardware, fittings, rails and accessories before tempering glass. Fully temper glass using horizontal (roller- hearth) process and fabricate so, when installed, roll wave distortion is parallel with bottom edge of door or tile.
- Factory assembled components and factory installed hardware to greatest extent possible.

### **EXECUTION**

- Examine areas and condition for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- Install all glass system and associated components according to manufacturer's written instructions.
- Set units in level and plumb.

- Maintain uniform clearances between adjacent components.
- Lubricate hardware and other moving parts according to manufacturer's written instructions.
- Set, seal and grout floor closer cases as required suiting hardware and substrate indicated.

## **CLEANING**

- The Contractor shall ensure that all actions are taken during installation to eliminate the effects of corrosive substances on the finishes.
- The Contractor shall clean both internal and external surfaces to remove corrosive substances, dust or cement / mortar dropping during the installation as may be directed and instructed by the Engineer – in - charge.
- The internal surfaces of glass and aluminium frame are to be cleaned with compatible cleaning agents prior to the installation of the internal protective sheeting.
- The Contractor shall provide written verification that cleaning agents are compatible with aluminium, stainless steel, glass coatings, granite, glazing materials and sealants. In no case shall alkaline or abrasive agent be used to clean the surface. Care shall be taken during cleaning to avoid scratching of the surface by grit particles.
- Prior to snagging inspections the Contractor shall, remove the internal protection sheets and carry out a thorough cleaning of all glass and aluminium.
- The Contractor shall also make good any physical damage to the structure including scratches, dents, abrasions, pitting, etc. to the satisfaction of the Engineer – in - charge.
- Manufacturer's delivery or job markings on glass and adhesive for manufacturer's labels shall be either a neutral or slightly acidic material. In no case shall such material be alkaline; any staining of glass by alkaline material will be cause for rejection of the glass.
- After the installation of each pane of glass all markings and labels shall be carefully and completely removed from the panes. Thereafter no markings or labels of any sort shall be placed on the glass.
- Glazed openings shall be identified by suitable warning tapes or flags attached with a non-staining adhesive or other suitable means to the framing of the opening. Tapes or flags shall not be in contact with glass.
- As soon as it is practically possible after the issuance of the occupation

Permit for the Building, the Contractor is to carry out a complete cleaning of the external face.

**PERFORMANCE GUARANTEE:**

The contractor shall offer a minimum of 10 year Performance Warranty for the entire installation carried out.

**MEASUREMENTS:** - Measurements shall be in Sq m of actual area covered.

- **RATE:** - Rate shall include all required labour, material, designing, drawing conveyance, testing at approved laboratory breakage, wastage, supervision, protection till handing over etc. complete.

**FLOORING:**

- 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.
- Wherever Vitrified Tile flooring is done, it shall be with multy grade/range 1st Quality tiles.
- 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.
- 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.
- The pointing work immediately above the dadoing works shall be done with proper slope.
- Protective layer to be provided of any type of flooring and nothing extra shall be paid on this account.
- The ceramic tile used for wall cladding shall be of Size 300x600mm. The lowest base price for the ceramic tiles for wall cladding shall be Rs.550/Sqm. The thickness for the tile shall not be less than 5mm.
- The ceramic tile used for flooring shall be of Size 600x600mm. The lowest base price for the ceramic tiles for flooring shall be Rs.600/Sqm
- The vitrified tile used for wall cladding and flooring shall be of Size 600x600mm. The lowest base price for the vitrified tiles shall be Rs.540 /Sqm.

- The lowest base price for the granite used for flooring/staircase/counter slabs shall be Rs.2500/Sqm.
- The lowest base price for heavy duty vitrified tile of size 600 mm x 600mm shall be Rs1019/ sqm .

**FALSE CEILING: -**

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

**UNDER DECK INSULATION**

- Material:-The under deck insulation shall be in accordance with Bill of Quantities and CPWD Specification.

**SAMPLES OF MATERIALS:**

- Sample of all materials/ fittings and fixture to be used in the work such as doors, windows, tiles, sanitary, water supply, drainage fittings and fixtures shall be submitted well in advance by the contractor for approval from the Engineer-in charge of work in writing before placing orders for the entire quantity required for completion of work. Samples approved by the EIC shall be kept in Sample Room under the charge of Engineer-in-Charge and shall retain till completion of work.
- Finished items in respect of typical portion of works of repetitive nature such as typical room, toilet, railing, door, window or any other work desired by the engineer-in- charge shall be prepared by the contractor to the satisfaction of Engineer-in-charge and got approved from him in writing before the commencement of these items for the entire work.
- The requirements for preparation of samples shall be observed and fulfilled by the contractor well in advance to avoid any detriment to

the general progress of work. In other words, this will not be allowed to have any effects on the general progress of work or on any of the terms and conditions of the contract. No claims of any kind whatsoever including the claims of extension of time will be entertained due to the incorporation of this requirement.

**VARIATION IN CONSUMPTION OF MATERIALS:**

- The variation in consumption of material shall be governed as per CPWD specification and clauses of the contract to the extent applicable.

**MISCELLANEOUS:**

- Materials manufacture by reputed firms and approved by Engineer – in charge shall only be used. Only articles classified as “First Quality” by the manufactures shall be used unless otherwise specified. Preference shall be given to those articles which bear ISI certification marks. In case articles bearing ISI certification marks are not available the quality of sample brought by the contractor shall be judged by the standards laid down in the latest CPWD specifications. For items not covered by the latest CPWD specification, relevant ISI standards shall apply.

**TESTS:**

- Materials brought at site of work shall not be used in the work before getting satisfactory test results for Mandatory tests as per relevant provisions in Latest CPWD Specifications for works. Normally, part rate payment shall be allowed in the running account bills only if the materials are tested and test results are found to be satisfactory to by the Engineer-in-charge. These tests shall be got done from laboratories approved by Engineer-in - charge or the laboratory set up by the contractor at site as per directions of Engineer-in - charge.
- The Engineer-in - charge of work shall check the test results and satisfy himself before allowing any payment in the running/ final bill.

All the items shall be executed based on CPWD specifications



## **CHAPTER C**

### **TECHNICAL SPECIFICATIONS – PLUMBING & RO PLANT**

#### **SECTION 1 GENERAL REQUIREMENT**

##### **1. Scope of work**

The work shall in general conform to the Latest CPWD Specifications for works as mentioned in General conditions of contract. Work under this Contract shall consist of furnishing all labour, materials, equipment and appliances necessary and required. The Contractor is required to completely furnish all the plumbing and other specialized services as described hereinafter and as specified in the schedule of quantities and/ or shown on the plumbing drawings.

#### **SECTION 3 Soil , waste, rainwater and Vent Pipes & Fittings**

##### **1. Scope of work**

- a. Work under this Part shall consist of furnishing all labour, materials, equipment's and appliances necessary and required to completely install all soil, waste, vent and rainwater pipes and fittings as required by the drawings, and given in the Schedule of Quantities.
- b. Without restricting to the generality of the foregoing, the system shall include the following:-
  - i. Vertical and horizontal soil, waste, vent and rain water pipes, and fittings, joints, clamps and connections to fixtures.
  - ii. PVC pipes for waste lines from lab sinks
  - iii. Connection of all pipes to sewer lines as shown on the drawings at ground floor levels.
  - iv. Floor and urinal traps, cleanout plugs, inlet fittings and rainwater heads/ Khurras.
  - v. Waste pipe from appliances e.g. washbasins, sinks and urinals shall be of PVC /SWR as given in the Schedule of Quantities or shown on the drawings
  - vi. All pipes shall be fixed in gradient towards the outfalls of drains. Pipes inside the lab shall be as shown on drawings. Where required pipes may be run at ceiling level in suitable gradient and supported on galvanized structural clamps. Spacing for clamps for such pipes shall be as per good engineering practice approved by the Engineer-In-Charge.
  - vii. Testing of all pipe lines

## 2. General requirements

- a. All materials shall be new of the best quality conforming to specifications and subject to the approval of Engineer-in-charge.
- b. Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workmanlike manner.
- c. Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.
- d. Pipes shall be securely fixed to walls and ceilings by suitable clamps intervals specified.
- e. Access doors for fittings and cleanouts shall be so located that they are easily accessible for repair and maintenance.

## 3. Piping System

Materials as specified in BOQ

### a. Jointing

- i. Pipes shall be jointed using manufacturer approved solvent cement as per manufacturer specifications and relevant IS codes.
- ii. Soil, Waste and Rain water pipes shall be jointed with utmost care. The plumber shall double check each joint before progressing to next. Pipe leak identified during testing shall be rectified.
- iii. Drainage pipes from sink/lab shall be connected upto the existing manholes at site. Excavation for this shall be done without damaging the existing drainage pipes.

### b. Fittings

1. Fittings shall conform to the same Indian Standard as for pipes. Pipes and fittings must be of matching IS Specification. Interchange of pipes of one standard with fittings on the other standard will not be permitted.
2. Fittings shall be of the required degree of curvature with or without access door.
3. Access door shall be easily accessible. The threads of the door and pipe fitting shall be thoroughly cleaned and fastened well before testing.

### c. Fixing

1. All vertical pipes shall be fixed by structural support clamps truly vertical. Branch pipes shall be connected to the stack at the same angle as that of the fittings. No collars shall be used on vertical stacks. Each stack shall be terminated at top with a cowl (terminal guard).

2. Horizontal pipes running along ceiling shall be fixed on structural adjustable clamps (Clevis clamps) of special design shown on the drawings or as directed. Horizontal pipes shall be laid to uniform slope and the clamps adjusted to the proper levels so that the pipes fully rest on them.
3. Contractor shall provide all sleeves, openings, hangers, inserts during the construction. He shall provide all necessary information to the Engineer-In-Charge/ Building Contractor for making such provisions in the structure as necessary. All damages shall be made good to restore the surfaces.

#### **4. Traps**

##### **a. Multi floor traps**

The floor trap shall be of multi inlet and one single outlet type. The floor trap shall be deep seal type with an effective seal of minimum 75mm. The waste from sanitary fixtures shall be directly discharged to the floor trap. Jointing of the waste pipe to the floor trap shall be done as per manufacturer's instructions. The height riser fitting shall be made use of, wherever the floor drain is located in deep sunk floors or is suspended from the ceiling. The floor trap shall be of reputed make and preferably of the same make as of the pipes used. The floor trap shall be provided with 150 x 150mm square or circular CP or stainless steel frame and grating of approved design. Frame and grating shall be of a make and model approved by the Engineer in charge.

##### **b. Jointing**

Soil, waste, Rain pipes shall be drip free. The following minimum procedures shall be complied with while making the pipe joints:-

- i. Ensure that the pipes are clean internally and undamaged.
- ii. The pipes shall be cut square with sharp tools.
- iii. The cut ends of the pipes shall be filed/ reamed and finished smooth.
- iv. Any deformed ends shall be re-rounded.
- v. It shall be ensured that the pipe ends shall enter the fittings and sockets to full depth of the jointing area.
- vi. The pipe work shall be assembled in a manner such that it does not entail making of joints in restricted locations.
- vii. The jointing surfaces shall be cleaned to remove any coatings or cutting oils, etc.

## **5. Cleanout Plugs**

### **a. Cleanout Plug on Drainage Pipes**

- i. Rodding eye at upper floors: - Rodding eye shall be provided at the start of the suspended drain pipe, A 45 degree bend is provided here with an end cap. The rodding eye shall be located considering sufficient vertical and horizontal clearance for rodding during maintenance.

## **6. Painting**

- a. G.I. waste pipes in shall be painted with two coats of bitumen paint, covered with polythene tape and a final coat of bitumen paint. Exposed pipes shall be painted with two or more coats of synthetic enamel paint over each priming coat.

## **7. Cutting and making good**

- a. Pipes shall be fixed and tested as building proceeds.
- b. Contractor shall provide all necessary holes cut outs and chases in structural members as building work proceeds. Wherever holes are cut or left originally, they shall be made good with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 stone aggregate 20 mm nominal size) or brick work in cement mortar 1:2 (1 cement: 2 coarse sand) and the surface restored as in original condition.
- c. Cores in slabs shall be packed as per standard procedure mentioned and shall not be paid separately.

## **8. Testing**

- a. Testing procedure specified below apply to all soil, waste and vent pipes above ground including pipes laid in the ceiling.
- b. Entire drainage system shall be tested for water tightness during and after completion of the installation. No portion of the system shall remain untested. Contractor must have adequate number of expandable rubber/bellow plugs, manometers, smoke testing machines, pipe and fitting work test benches and any other equipment necessary and required to conduct the tests. All testing shall be certified for its calibration by an approved laboratory.
- c. All materials obtained and used on site must have manufacturer's hydraulic test certificate for each batch of materials used on the site. All testing equipment must be calibrated and shall carry certificate from an approved laboratory.
- d. Testing soil, waste and rainwater pipes
  - i. The entire installation shall be tested by smoke testing machine. The test can be conducted after the plumbing fixtures are installed and all traps have water

seal or by plugging all inlets by bellow plugs. Apply dense smoke keeping the top of stack open and observe for leakages. Rectify or replace defective sections.

- ii. After the installation is fully complete, it should be tested by running at least 20% of all taps simultaneously and ensuring that the entire system is self-draining, has no leakages, blockages etc. Rectify and replace where required.
- e. Contractor shall maintain a test register identifying date and time of each area. All tests shall be conducted in presence of Engineer-in-charge and signed by both.

## **9. Measurements**

### **a. General**

- i. Rates for all items quoted shall be inclusive of all work and items given in the specifications and Schedule of Quantities.
  - ii. Rates are applicable for the work under floors, in shafts at ceiling level area for all heights and depths.
  - iii. Rates are inclusive of cutting holes and chase in RCC and masonry work and making good the same.
  - iv. Rates are inclusive of pre testing, on site testing, of the installations, materials and commissioning of the works.
  - v. Pipes (Unit of measurement, linear meter to the nearest Centimetre) or as specified in CPWD specifications.
- b. All PVC/SWR/ RCC Soil, waste, vent, anti-syphonage and rain water pipes shall be measured net when fixed correct to a centimetre including all fittings along its length.
- c. Pipes shall be measured per running metre correct to a centimetre for the finished work which shall include fittings e.g. bends, tees, elbows, reducers, crosses, sockets, nipples and nuts. The length shall be taken along centre line of the pipes and fittings. All pipes and fittings shall be classified according to their diameter, method of jointing and fixing substance, quality, and finish. The diameters shall be as specified in the schedule of quantities. The pipes shall be described as including all cutting and waste. In case of fittings of unequal bore, the largest bore shall be measured.
- d. Slotted angles/channels shall include threaded rods, bolts, nuts and clamps embedded in masonry walls with cement concrete blocks or fixed to concrete slab are included in the rate of pipes and nothing will be paid extra for the same.
- e. Fittings

Nothing extra will be paid for fittings. Pipe fittings are included in the rate of pipes.

f. Excavation for soil pipes

No payment shall be admissible with respect to excavation, refilling and disposal of surplus earth for soil and waste pipes laid below ground, in sunken slabs.

g. Engineer-in-charge's decision with respect to the correct interpretation regarding mode of measurement shall be final and binding on the contractor.

## **SECTION 4 Water Supply Systems**

### **1. Scope of work**

- a. Work under this section consists of furnishing all labour, materials equipment and appliances necessary and required to completely install the water supply system as required by the drawings, specified hereinafter and given in the Schedule of Quantities.

### **2. General requirements**

- a. All materials shall be new of the best quality conforming to specifications. All works executed shall be to the satisfaction of the Engineer-in-charge.
- b. Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workmanlike manner.
- c. Short or long bends shall be used on all main pipe lines as far as possible. Use of elbows shall be restricted for short connections.
- d. Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.
- e. Pipes shall be securely fixed to walls and ceilings by suitable clamps at intervals approved by the Engineer-In-Charge.
- f. Valves and other appurtenances shall be so located as to provide easy accessibility for operations, maintenance and repairs.

### **3. CPVC Pipes & Fittings**

- a. Water supply pipes shall be CPVC. Pipes used for concealed work, exposed work or in trenches are designated by their nominal diameters. Pipes up to 50mm diameter shall be SDR 11. Pipes above 50mm shall be SCH 40.
- b. Pipe and fittings shall be joined with solvent cement, after cutting a pipe with a hacksaw or a cutting machine care shall be taken to remove burr from the end of the pipe after reaming with a proper file.

- c. Pipe threaded joints will be made by applying suitable grade of TEFLON tape used for drinking water supply.(Use of red and white lead sutli will not be permitted for screwed joints)
- d. All pipes shall be fixed in accordance with layout and alignment shown on the drawings. Care shall be taken to avoid air pockets. CPVC pipes inside shall be fixed in wall chases well above the floor. No pipes shall be run inside a sunken floor as far as possible. Pipes may be run under the ceiling or floors and other areas as shown on drawings.
- e. All pipes and fittings shall have the approved manufacturer name and class embossed on them.
- f. Clamps
  - i. CPVC pipes in the shaft and other locations shall be supported by clamps of design approved by Engineer-In-Charge. Pipes in wall chases shall be anchored by hooks. Pipes at ceiling level shall be supported on structural clamps.
  - ii. Spacing of clamps, hooks etc. Shall be as per good engineering practice approved by the Engineer-in-charge
- g. Unions

Contractor shall provide adequate number of unions on pipes 50mm and below to enable easy dismantling later when required .Unions shall be provided near each gunmetal valve, stop clock, or check valve and go on straight runs as necessary at appropriate locations as required and/or direct by Engineer-In-Charge.
- h. Flanges
  - i. Flanged connections shall be provided on pipes 65 mm and above as required or where shown on the drawings generally as follows:
    1. At connections to main branch lines.
    2. On all valves ends
    3. On equipment/pump connections as necessary and required or as directed by Engineer – in - charge.
  - j. Flanged connections shall be made by the correct number and size of the bolts and made with 3 mm thick insertion neoprene gaskets Bolt hole dia. for flanges shall conform to match the specification for valve.

#### 4. Valves

Gate valves shall be Gun metal with pressure rating of PN16.

Non return valves shall be vertical or horizontal type Gun metal as per requirement. The pressure rating shall be PN 16.

## **5. Testing**

- a.** All pipes, fittings and valves, after fixing at site, shall be tested by hydrostatic pressure of 1.5 times the working pressure or 10 kg /cm<sup>2</sup> whichever is more. Pressure shall be maintained for a period of at least 12 hours without any drop & withstand for 8 hrs.
- b.** A test register shall be maintained and all entries shall be counter-signed by Contractor(s) in the presence of Engineer-in-charge.
- c.** In addition to the sectional testing carried out during the construction, Contractor shall test the entire installation after connections to the overhead tanks or pumping system or mains. He shall rectify all leakages and shall replace all defective materials in the system. Any damage done due to carelessness, open or burst pipes or failure of fittings, to the building, furniture and fixtures shall be made good by the Contractor during the defects liability period without any cost.
- d.** After commissioning of the water supply system, Contractor shall test each valve by closing and opening it a number of times to observe if it is working efficiently. Valves which do not effectively operate shall be replaced by new ones at no extra cost and the same shall be tested as above.

## **6. Measurements**

- a.** CPVC pipes
  - i.** CPVC pipes above ground shall be measured per linear metre (to the nearest cm) and shall be inclusive of all fittings e.g. couplings, tees, bends, elbows, unions, and flanges. Deduction for valves shall be made. Rate quoted shall be inclusive of all fittings, clamps, cutting holes chases and making good the same and all items mentioned in the specifications and Schedule of Quantities.
  - ii.** CPVC pipes below ground shall be measured per linear metre (to the nearest cm) and shall be inclusive of fittings, e.g. couplings, tees, bends, elbows, unions. Deduction for valves shall be made. Rates quoted shall be inclusive of all fittings, excavation, back filling and disposal of surplus earth and all other items mentioned in the specifications and Schedule of Quantities.
- b.** Gunmetal/ cast iron/ brass, butterfly and non-return valves puddle flanges, level indicators and meters shall be measured by numbers.
- c.** Brick masonry chamber for valves and meters shall be measured by number and include all items given in the Schedule of quantities.



- d. Engineer-In-Charge's decision with respect to the correct interpretation regarding mode of measurement shall be final and binding on the contractor.

### **RO PLANT**

Scope of this section covers the design, manufacture, supply, installation, testing and commissioning of Reverse Osmosis (RO) Plant complete with all accessories whether specifically mentioned or not.

#### **Standards:**

RO Plant output water quality shall be suitable for lab sinks conforming to ANSI/AAMI Standard 13959:2014 as follows:

Bacteria < 100 CFU with 50 CFU as action limit

Desired output from RO Plant

Turbidity < 5NTU

Iron <0.3ppm

Fluoride <1ppm

Free Chlorine : nil

#### **Location:**

RO Plant shall be located in the plant room space allocated. It is considered that RO plant reject will be approximately about 25% to 40% of the inflow from Pressure sand filter. Inflow water quantity is considered as minimum 2000 LPH for the design, based on 25% reject. Tenderer shall confirm this in the tender.

#### **Design Parameters and Processes:**

Raw water Parameters:

Source : Treated water.

pH : 6.0

Total Dissolved Solids (TDS) : 60 mg/l

Iron as Fe : Below Detection Limit less than .3ppm

Pre- Treated Water Parameters (Through PSF and ACF)

Ph : 7.0

Turbidity : < 5 NTU

Free Chlorine : Less than 0.1 ppm.

#### **Process of treatment shall be as follows:**

- a) From pressure sand filter, pre-treated water shall flow through cartridge filter and then to the reverse osmosis plant.
- b) Anti-scalant and acid shall be dosed on line through the above flow.
- c) Treated water shall then flow into post chlorination system and then shall be fed to RO unit.
- d) Backwash of RO plant shall be connected to the nearby waste water drainage.

Anti-scalant Dosing System: reverse osmosis membranes generally consist of polyamide salt-rejecting film on a poly-sulphonyl base. RO system may create salt concentrated water streams on rejection side producing scale on the membranes, which may block the flow

through them. Anti-scalant chemical shall be added inline to protect the membrane from scaling/ fouling formation.

Following items shall be covered in the tender, whether specifically mentioned in the bill of quantities or not:

- a) System shall be completely assembled, pre-piped, pre-wired and skid mounted.
- b) Microprocessor based control with inbuilt process logic.
- c) Auto start/ stop based on water level in the feed tank/line.
- d) Integrated water pump with the unit.
- e) Low/high pressure switch for inbuilt protection to high pressure pump.
- f) Instrumentation
- g) Blending cartridge to adjust TDS, followed by UV disinfection
- h) Automatic backwash of filters at regular intervals.
- i) Recovery of water (treated water) shall be in the range of 60% to 75%.

**Equipment and Materials of Construction:**

The Contractor shall include all items essential for the complete RO Plant.

**Installation/ Commissioning:**

Contractor shall install and commission the whole Reverse Osmosis System from Filter unit to the Post Chlorine Dosing, complete in all respects. Contractor shall provide as part of the contract all tools, tackles, instruments and consumables required for the satisfactory installation, testing, commissioning and handing over.

**Testing:**

Output water from the entire treatment process shall be subjected testing to determine whether the quality matches with the specified AAMI standards Contractor shall conduct monthly Water Analysis Test as part of this contract to determine the TDS, pH, chlorine and other parameters in the treated water. Water quality Tests shall be performed by the Contractor as part of this contract, monthly during 2 years of defects liability period and thereafter for 5 years of CMC Period. Test reports/documentations shall be submitted to the client.

**Maintenance of Reverse Osmosis (RO) Plant:**

Following regular maintenance shall be carried out by the Contractor during 2 years of defects liability period and 5 years CMC:

- a. Periodic cleaning of RO membrane
- b. Replacement of cartridge micron filters during every servicing (every 2 months)
- c. Anti-scaling dosing (As per requirement)
- d. Raw water pump (Checking/servicing)
- e. R.O. Membrane (Checking/ Replacement, if required)
- f. High pressure pump (Checking/servicing)
- g. Checking of flow rate of membrane & TDS

## CHAPTER D

### TECHNICAL SPECIFICATIONS – HVAC SYSTEM

#### 1. SCOPE

The scope of this section comprises the supply, erection testing and commissioning of HVAC System conforming to these specifications and in accordance with the requirements of Drawing and Schedule of Quantities.

#### 2. DUCTING SYSTEM

This section deals with supply, erection, testing and commissioning of all sheet metal ductwork conforming to specifications given below. The ducts shall be of site fabricated.

##### 2.1 Material for Ducting

All ducts shall be fabricated from galvanized sheet of 120 gm/sq.m (Class VIII) confirming to IS 277-1962 (revised). The fabrication of duct shall strictly conform to ISS 655-1963. The thickness of the sheet shall be as follows:

Maximum size (mm)	Thickness of sheet (mm)	Type of transverse joint connections	Bracing (if any)
Upto 300	0.6 24 G	S-drive, pocket or bar slips, on 2.5m centres	None
301 to 600 601 to 750	0.6 24 G	S-drive, pocket or bar slips, on 2.5m centres S-drive, 25mm pocket or 25mm bar slips on 2.5m centres drive	None 25x25x3mm angle 1.2m from joint
751 to 1000 1001 to 1500	0.80 22 G	40x40mm angle connections, or 40mm pocket or 40mm bar slips, with 35x3mm bar reinforcing on 2.5m centres	40x40x2mm angle 1.2m from joint
1501 to 2250	1.00 20 G	40x40mm angle connections, or 40mm pocket or 40mm bar slips, 1 m maximum centres with 35x3mm bar reinforcing	40x40x3mm angle / 40x40x3mm angle 60mm from joint.
2251 & above	1.25 18 G	50x50mm angle connections, or 40mm pocket or 40mm bar slips, 1 m maximum centres with 35x3mm bar reinforcing	40x40x3mm angle / 40x40x3mm angle 60mm from joint.

The following points shall be also taken into account while fabrication of ducts.

- a) All ducts shall be as per gauges, etc. indicated on the approved drawings.
- b) All ducts of size larger than 450 mm shall be cross broken.
- c) All ducts shall be supported from RCC/truss by means of MS rods, angles, etc.
- d) The ductwork shall not extend outside and beyond height limits as specified on the approved drawings.
- e) All ducts shall be reinforced, if necessary and must be secured in place so as to avoid shifting of the ducts on its supports.
- f) The vanes shall be provided and securely fastened to prevent noise and vibration.
- g) The rubber gasket shall be installed between duct flanges in all connections and joints.
- h) The ductwork can be modified in consultation with Purchaser to suit actual conditions in the building.
- i) All flanges and supports should be primer coated on all surfaces before erection and painted with aluminum paint thereafter.
- j) The flexible joints are to be fitted to the suction and delivery of all fans with double heavy canvass. The length of flexible joints should not be less than 150 mm.
- k) All sheet metal gauges and fabrication procedure as given in BIS specification shall be strictly adhered to. The BIS specification shall form part of this contract.

### **3. Grilles/Diffusers**

Material of construction - Extruded Aluminum

Supply air and return air grilles shall be continuous type and shall be fixed as given in the approved drawing. The square/rectangular diffusers shall be flush or step down type to match false ceiling pattern. The diffuser blades shall be die formed, flush mounted with single or double direction airflow. Supply of frames for fixing the grilles/diffusers, if required, is also in the scope of the contractor.

Return air grilles shall be with blanks and return air provisions. The size and appearance shall match with supply air grilles. The supply air grilles shall form part of the continuous return air grilles. The fixing of grilles/diffusers should be done in close co-ordination with false ceiling work and as directed by Purchaser.

The aluminum grilles/diffusers, etc. shall be powder coated of colours to match the interiors. However, successful bidder shall have to obtain prior approval regarding colour, finish, shape, etc. of grilles/diffusers and sample should be submitted to Purchaser for approval.

The complete duct system shall be tested for air leakage and complete air distribution systems shall be balanced in accordance with the approved drawings for achieving designed values inside the building.

## **4 THERMAL / ACOUSTIC INSULATION**

### **4.1 Material**

- Insulation material shall be Closed Cell Elastomeric Nitrile Butadiene Rubber.

- Insulation material shall have anti-microbial product protection. The antimicrobial product protection shall be an integral part of insulation that is built-in during the manufacturing process and the product protection should not allow the microbes to function, grow and reproduce.
- Resistance towards microbiological growth on insulation surface should confirm to following standards: Fungi Resistance – ASTM G21 where the fungal growth on the surface is NIL after 28 days of incubation at 28 – 30° C and Bacterial resistance – ASTM E 2180 where the reduction of bacterial growth is minimum 99.9% after 24 hours of incubation at 34 – 38° C.
- Thermal conductivity of Elastomeric Nitrile rubber shall not exceed 0.035 W/m°K at an average temperature of 20°C in accordance to EN12667
- The insulation shall have fire performance such that it passes Class 1 as per BS476 Part 7 for surface spread of flame as per BS 476 and also pass Fire Propagation requirement as per BS476 Part 6 to meet the Class ‘O’ Fire category as per 1991 Building Regulations (England & Wales) and the Building Standards (Scotland) Regulations 1990.
- Water vapour permeability shall not exceed  $1.74 \times 10^{-14}$  Kg/m.s.Pa, i.e. Moisture Diffusion Resistance Factor or ‘ $\mu$ ’ value should be minimum 10,000 according to EN 12086
- Density of Material shall be between 40 to 60 Kg/m<sup>3</sup>.

#### 4.2 Duct Insulation

External thermal insulation shall be provided as follow:

- The thickness of Nitrile rubber shall be as shown on drawing or identified in the schedule of quantity. Following procedure shall be adhered to:
- Duct surfaces shall be cleaned to remove all grease, oil, dirt, etc. prior to carrying out insulation work. Measurement of surface dimensions shall be taken properly to cut closed cell elastomeric rubbers sheets to size with sufficient allowance in dimension.
- Material shall be fitted under compression and no stretching of material shall be permitted. A thin film of adhesive shall be applied on the back of the insulating material sheet and then on to the metal surface. When adhesive is tack dry, insulating material sheet shall be placed in position and pressed firmly to achieve a good bond. All longitudinal and transverse joints shall be sealed as per manufacturer recommendations. The adhesive shall be strictly as recommended by the manufacturer.
- The detailed Application specifications are mentioned separately.

### 4.3 Recommended Adhesive

In all cases, the manufacturer's recommended Adhesive should be used for the specified purpose.

### 4.4 Acoustic Insulation

Material shall be engineered Nitrile Rubber open cell foam.

The Random Incidence Sound Absorption Coefficients (RISACs) across the octave band frequencies; tested as per ISO 354, and Noise Reduction Coefficients (NRCs) for the Acoustic Insulation should be minimum as per the below chart:

<b>Freq (Hz)</b>	<b>125</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>	<b>NRC</b>
<b>10 mm</b>	0.03	0.04	0.14	0.40	0.88	1.00	0.40
<b>15 mm</b>	0.01	0.09	0.29	0.74	1.08	0.83	0.55
<b>20 mm</b>	0.04	0.13	0.40	0.90	1.04	0.90	0.60
<b>25 mm</b>	0.05	0.25	0.86	1.14	0.88	0.99	0.80
<b>30 mm</b>	0.07	0.32	0.99	1.16	0.93	1.08	0.85
<b>50 mm</b>	0.23	0.73	1.29	0.99	1.09	1.11	1.05

- The material should be fibre free.
- The density of the acoustic insulation should be minimum 140 Kg/m<sup>3</sup>
- The insulation should have Microban<sup>®</sup>; Built-in Anti-Microbial Product Protection, and should pass Fungi Resistance as per ASTM G 21 and Bacterial Resistance as per ASTM E 2180.
- The insulation should be non-eroding & should pass Air Erosion Resistance Test in accordance to ASTM Standard C 1071-05 (section 12.7).
- The material should have a thermal conductivity not exceeding 0.047 W/m.K @ 20 ° C.
- The material should withstand maximum surface temperature of +85<sup>0</sup>C and minimum surface temperature of -20<sup>0</sup>C
- The material should confirm to Class 1 rating for surface spread of Flame in accordance to BS 476 Part 7 & UL 94 (HBF, HF 1 & HF 2) in accordance to UL 94, 1996.
- Thickness shall be 10mm for Duct Acoustic Lining
- Duct so identified and marked on Drawings and included in Schedule of Quantities shall be provided with internal acoustic lining for a distance of minimum 6 meters (or 30% of the duct length whichever is more).

- Thickness of the insulation material shall be as specified for the individual application. The insulation should be installed as per manufacturer's recommendation.

#### **4.5 Accessories**

Adhesive to adhere insulation to the inside walls of the duct shall be from the Insulation manufacturer only.

#### **5. Exhaust Air Blowers**

Inline exhaust air flow duct blowers suitable for single phase operations with direct driven class F motor, IP 54 insulation, max 1400rpm, necessary steel frame, and complete with GI box, with an operating sound level not exceeding 60dB at 3m distance.

#### **6. HEPA Filter**

Hepa Filter shall be of efficiency 99.97%. HEPA filters shall be aluminium corrugated and Mini pleat style. All filters shall made up of high quality micro-fine glass fiber media. Filter frames shall made up of Galvanized steel. Hepa filter shall ensure low pressure drop even at high airflows & with Antimicrobial protection.

All filters shall be made in accordance and tested to EN 1822 / ASHRAE 52.2 standards. These test certificates from OEM's shall be produced. The Hepa filter shall be fixed in a plenum constructed at the AHU mouth.

#### **7. PAINTING WORK**

All equipment shall be painted as specified under respective headings. Grilles/ diffusers shall be powder coated as per approved colour matching with interiors. The contractor has to get approval of the quality and colour of paints for all types of painting work.

#### **8. SUBMITTALS**

**Product Data:** Submit manufacturer's technical data for air distribution equipment, including capacity ratings, fan performance curves with operating point clearly indicated, Finishes of materials, dimensions, weights, furnished accessories, and installation and instructions.

**Shop Drawings:** Submit manufacturer's assembly type shop drawings indicating dimensions, required clearances, installation details and field connection details.

**Wiring Diagrams:** Submit the manufacturer's electrical requirements for power supply, wiring to the units.

**Operation and Maintenance Data:** Submit maintenance and lubrication instructions, motor and drive replacement instructions, and spare parts list for each unit.

**Spare Parts List:** Submit the manufacturer's spare parts list for ventilation equipment for a period of 3 years for the Engineer's review and approval.

## **9. TRANSPORTATION, HANDLING AND STORAGE**

- B. Transportation, handling and storage of materials shall be in accordance with Manufacturer's recommendations regarding transportation, handling and storage of materials.
  
- B. Deliver materials to the site in manufacturer's original factory wrappings and containers, clearly labeled for identification of manufacturer, brand name and contents. Store materials off ground in original undamaged packages and containers, inside well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity. Follow manufacturer's instructions regarding transportation, handling and storage of materials.

## **10. WARRANTY**

Materials shall be provided of standard products of specialist manufacturers who have long experience of manufacturing and installing control equipment specified in this section. The system shall be installed by competent personnel, regularly employed by the Controls manufacturer with full responsibility for proper operation of the Controls including debugging and proper calibration of each component in the entire system. Supplier shall have in-place support facility within 30 km of the site with technical staff, spare parts inventory and all necessary test and diagnostic equipment. Submit a written guarantee signed by manufacturer, contractor, and installer agreeing to replace partitions which fail in material or workmanship within a period of 3 years from the date of completion of works as certified by the E-I-C.

## **11. QUALITY ASSURANCE**

- A. Motors and electrical accessories shall comply with the applicable Indian Standards.
  
- B. Electrical components and installation shall comply with National Electrical Code.
  
- C. Test, adjust and balance air conditioning systems during hot season.
  
- D. Training**
  - 1. Train Owner's maintenance personnel on the troubleshooting procedures and testing, adjusting, and balancing procedures. Review with Owner's personnel, the information contained in the Operating and Maintenance Data.
  - 2. Schedule training through the Project Manager with at least 7 days prior notice.



## **12. Equipment Insulation:**

No separate measurement for insulation of any equipment shall be made. Insulation of equipment shall be deemed to form part of the equipment. Insulation on equipment shall be done as per specifications provided.

## **13. ASSOCIATED CIVIL WORKS**

The rate shall include all civil works associated with HVAC installation executed in accordance with approved shop drawings under direct supervision of the Project Manger such as PCC foundation blocks for all OUT DOOR UNITS/wall openings etc.

## **14. PERFORMANCE GUARANTEE**

The contractor shall carry out the work in accordance with the Drawings, Specifications, Schedule of Quantities and other documents forming part of the Contract. The Contractor shall be fully responsible for the performance of each equipment installed by him at the specified parameters and for the efficiency of the installation to deliver the required end result. The Contractor shall guarantee that the HVAC system as installed shall maintain the inside conditions in the air-conditioned spaces included in the specifications.

The contractor shall also guarantee that the performance of various equipment individually, shall not be less than the quoted capacity; also actual power consumption shall not exceed the quoted rating, during testing, commissioning and handing over.

## **15. BYE-LAWS AND REGULATIONS**

The installation shall be in conformity with the Bye-laws, Regulations and Standards of the local authorities concerned, in so far as these become applicable to the installation. But if these Specifications and drawings call for a higher standard of materials and / or workmanship than those required by any of the above regulations and standards, then these specifications and drawings shall take precedence over the said regulations and standards. However, if the drawings and specifications require something which violates the Bye-laws and Regulations, then the Bye-laws and Regulations shall govern the requirement of this installation.

## **16. FEES AND PERMITS**

The contractor shall obtain all permits / licenses and pay for any and all fees required for the inspection, approval and commissioning of the installation. It shall be reimbursed by the owner on submission of documentary evidence.

## **17. DRAWINGS.**

The HVAC drawings issued with tenders are diagrammatic only and indicate arrangement of various systems and extent of work covered in the contract. These drawings indicate the points of supply and of termination of services and broadly suggest the routes to be followed. Under no circumstances shall dimensions be scaled from these Drawings. The architectural/interiors drawings and details shall be examined for exact location of equipment, controls, grilles and diffusers.

The Contractor shall follow the tender drawings for preparing his shop drawings, and for subsequent installation work. He shall check the drawings of other trades to verify spaces in which his work will be installed. Maximum headroom and space conditions shall be maintained at all points. Where headroom appears inadequate, the contractor shall notify the Architect/ Consultant/ Owner's site representative before proceeding with the installation. In case installation is carried out without notifying, the work shall be rejected and contractor shall rectify the same at his own cost. The contractor shall examine all architectural, structural, plumbing, electrical and other services drawings and check the as-built works before starting the work, report to the Owner's site representative any discrepancies and obtain clarification. Any changes found essential to coordinate installation of this work with other services and trades, shall be made with prior approval of the Architect/ Consultant/ Owner's site representative without additional cost to the Owner. The data given in the Drawings and Specifications is as exact as could be procured, but its accuracy is guaranteed.

## **18. TECHNICAL DATA**

Each tenderer shall submit along with his tender, the technical data for all items. Failure to furnish complete technical data with tenders may result in rejection of the tender. Manufacturer's drawings, catalogues and other documents submitted for approval shall be in four sets. Each item in each set shall be properly labeled, indicating the specific services for which material or equipment is to be used, giving reference to the governing section and clause number and clearly identifying in ink the items and the operating characteristics. Data of general nature shall not be accepted. Samples of all materials like grilles, diffusers, controls, insulation, control wires etc. shall be submitted to the Owner's site representative prior to procurement. These will be submitted in for approval and retention by Owner's site representative and shall be kept in their site office for reference and verification till the completion of the project. Wherever directed a mockup or sample installation shall be carried out for approval before proceeding for further installation. Where the contractor proposes to use an item of equipment other than that specified or detailed on the drawings, which requires any redesign of the structure, partitions, foundation, piping, wiring or any other part of the mechanical, electrical or architectural layouts; all such redesign, and all new drawings and detailing required therefore, shall be prepared by the contractor at his own expense and gotten approved by the Architect/ Consultant/ Owner's site representative. Delay on such account shall be at the

cost of and consequence of the Contractor. Where the work of the contractor has to be installed in close proximity to, or will interfere with work of other trades, he shall assist in working out space conditions to make a satisfactory adjustment. If so directed by the Owner's site representative, if the contractor installs his work before coordinating with other trades, or so as to cause any interference with work of other trades, he shall make all the necessary changes without extra cost to the Owner.

## **19. QUIET OPERATION AND VIBRATION ISOLATION**

All equipment shall operate under all conditions of load without any sound or vibration which is objectionable in the opinion of the Owners site representative. In case of rotating machinery sound or vibration noticeable outside the room in which it is installed, or annoyingly noticeable inside its own room, shall be considered objectionable. Such condition shall be corrected by the contractor at his own expense. The contractor shall guarantee that the equipment installed shall maintain the specified NC levels.

## **20. ACCESSIBILITY**

The contractor shall verify the sufficiency of the size of the shaft openings, clearances in cavity walls and suspended ceilings for proper installation of his ducting and piping. His failure to communicate insufficiency of any of the above shall constitute his acceptance of sufficiency of the same. The contractor shall locate all equipment's which must be service, operated or maintained in fully accessible positions. The exact location and size of all access panels, required for each concealed damper, valve or other devices requiring attendance shall be finalized and communicated in sufficient time, to be provided in the normal course of the work. Failing this, the contractor shall make all the necessary repairs and changes at his own expense. Access panel shall be standardized for each piece of equipment / device / accessory and shall be clearly nomenclature / marked.

## **21. MATERIALS AND EQUIPMENT**

All materials and equipment shall conform to the relevant Indian Standards and shall be of the approved make and design. Makes shall be strictly in conformity with list of approved manufacturer's.

## **22. MANUFACTURER'S INSTRUCTIONS**

A Manufacturer has furnished specific instruction, relating to the material and equipment used in this project, covering points not specifically mentioned in these documents, such instructions shall be followed in all cases.

## **23. ELECTRICAL INSTALLATION**

The electrical work related to air conditioning services shall be carried out in full knowledge of and with complete coordination of the contractor. The electrical installation shall be in total conformity with the control wiring drawings prepared by the contractor and approved by the Architect/Consultant. All air conditioning equipment shall be connected and tested in the presence of an authorized representative of the contractor. The air conditioning system shall be commissioned only after the contractor has certified in writing that the electrical installation work or air conditioning services has been thoroughly checked, tested and found to be totally satisfactory and all in full conformity with contract drawings, specifications, and manufacturer's instructions. It is to be clearly understood that the final responsibility for the sufficiency, adequacy and conformity to the contract requirements, of the electrical installation work for air conditioning services, lies solely with the contractor.

## **24. COMPLETION CERTIFICATE**

On completion of the Electrical installation for air conditioning, a certificate shall be furnished by the contractor, counter signed by the licensed supervisor, under whose direct supervision the installation was carried out. This certificate shall be in the prescribed form as required by the local authority. The contractor shall be responsible for getting the entire electrical installation for air conditioning system duly approved by the local authorities concerned, and shall bear expenses in connection with the same.

## **25. OPERATING INSTRUCTION & MAINTENANCE MANUAL**

Upon completion and commissioning of HVAC system the contractor shall submit a draft copy comprehensive operating instructions, maintenance schedule and log sheets for all systems and equipment included in this contract. This shall be supplementary to manufacturer's operating and maintenance manuals. Upon approval of the draft, the contractor shall submit four (4) complete bound sets of typewritten operating instructions and maintenance manuals; one each for retention by Consultant and Owner's site representative and two for Owners Operating Personnel. These manuals shall also include basis of design, detailed technical data for each piece of equipment as installed, spare parts manual and recommended spares for 3 year period of maintenance of each equipment.

## **26. ON SITE TRAINING**

Upon completion of all work and all tests, the Contractor shall furnish necessary operators, labour and helpers for operating the entire installation for a period of fifteen (15) working days of twelve (12) hours each, to enable the Owner's staff to get acquainted with the operation of the system. During this period, the contractor shall train the Owner's personnel in the operation, adjustment and maintenance of all equipment installed.

## **27. MAINTENANCE DURING LIABILITY PERIOD**

### **27.1 Complaints**

The contractor shall receive calls for any and all problems experienced in the operation of the system under this contract, attend to these within 10 hours of receiving the complaints and shall take steps to immediately correct any deficiencies that may exist.

### **27.2 Repairs**

All equipment that requires repairing shall be immediately serviced and repaired. Since the period of Mechanical Maintenance runs concurrently with the defects liability period, all replacement parts and labour shall be supplied promptly free-of charge to the Owner.

## **28. UPTIME GUARANTEE**

The contractor shall guarantee for the installed system an uptime of 98%. In case of shortfall in any month during the defects liability period, the Defects Liability Period shall get extended by a month for every month having shortfall. In case of shortfall beyond the defects liability period, the contract for Operation and Maintenance shall get extended by a month for every month having the shortfall and no reimbursement shall be made for the extended period.

The Contractor shall provide log in the form of diskettes and bound printed comprehensive log book containing tables for daily record of all temperatures, pressures, humidity, power consumption, starting and stopping times for various equipment, daily services rendered for the system alarms, maintenance and record of unusual observations etc. Contractor shall also submit preventive maintenance.

### **28.1 Schedule**

Each tenderer shall submit along with the tender, a detailed operation assistance proposal for the Owner's site representatives/ Consultant's review. This shall include the type of service planned to be offered during the Defects Liability Period and beyond. The operation assistance proposal shall give the details of the proposed monthly reports to the management.

**CHAPTER E**

**TECHNICAL SPECIFICATIONS - MEDICAL GAS PIPELINE SYSTEM (MGPS)**

SN	Technical Specification
	The system comprises of
1	Carbon Dioxide Manifold and Emergency CO2 Manifold with semi automatic control panel
2	Medical Vacuum (suction) Supply System Complete.
3	Distribution Piping Complete with Accessories.
4	Area Valve Service System.
5	Alarm Systems (Area)
6	Gas Outlets with Probes
7	Other associated & Optional works
<b>RESPONSIBILITY OF BIDDER</b>	
1	Bidder shall be responsible for complete design, supply, installation, testing and commissioning including Civil Modification works, demolition and construction as applicable .The bidders are required to survey the site before furnishing the quotations.
2	Bidder shall execute all required civil, electrical, plumbing, fire safety, false ceiling trap door/ cutout and repair(if any) and other works as maybe required for complete installation and trouble-free functioning as a part of the ‘Civil Modification’.
3	The institute will provide one point electrical supply with isolator and an earth strip in the plant. The internal wiring and earthing, has to be done by the bidder.
4	Electrical Control panel for Vacuum system has to be supplied by the bidder.
5	Bidder will be responsible for other associated work related to installation and commissioning of complete MGPS system.
6	The bidder shall be responsible for the complete works including the submission of working drawings, and isometric views, detailed work schedule and materials. Bidder shall be responsible for design, supply, installation, testing and commissioning of medical gas supply system in coordination with respective institute authorities & HLL/HITES.
7	Bidder shall be responsible for free maintenance of all component of Gas pipeline system during warranty period including all filters & consumables.
8	Bidder should provide factory test certificates for the materials used. Bidder should supply complete set of part manuals, service manuals and user manuals for all the systems and subsystems supplied. Final electrical safety test, system test, leakage and calibration should be done by authorized persons using calibrated test equipment as per standards.
9	The Medical Gas Pipe Line System must follow Single Standard any one only from: NFPA 99c/HTM 02-01/ ISO 7396-1/DIN/EN except Copper Pipe.

10	Bidder shall co-ordinate with respective institute staff for their final Gas Outlets requirement and should incorporate the same in drawing.
11	The final Payment will be made on the actual consumption of the BOQ Items and ranking will be done with tendered BOQ.
12	<b>Control Panels &amp; Manifold for CO<sub>2</sub>, Vacuum Plant, All types Outlets, AVSU, Line Isolation Valves, High Pressure Tubes shall comply with HTM 02-01/NFPA 99C/DIN/EN/ISO-7396-1 standards and bidder should submit valid quality certificates along with the bid.</b>
13	The third party compliance certification after installation to be done for the standard followed i.e HTM 02-01/NFPA 99C/DIN/EN/ISO-7396-1 except copper pipe from the authorised agency. The cost for the same will be borne by the bidder.
14	Bidder must have a satisfactory installation of complete MGPS as per any International standard as asked in tender and demo may be taken for the same.
15	Bidder will be provided after award either AutoCAD or PDF or hard Copy of building Layout drawing for preparation of MGPS drawings.
	<b>RESPONSIBILITY OF CONSIGNEE</b>
1	The institute will provide MGPS plant & manifold room (complete with plastering , painting & flooring)
2	Institute will provide one point electrical, water and drain connection at the plant & manifold room
3	Institute will provide shaft for MGPS riser
4	Institute will provide temporary storage for storing of raw materials of MGPS system during installation period and the security of the store is the responsibility of MGPS vendor
	<b><u>Scope and Technical Specification:</u></b>
1	<b>CARBON DIOXIDE SYSTEM</b>
	The system should consist of CO <sub>2</sub> Manifold 4 + 4 Primary & 1+1 Standby with Class-D type Cylinders and control panel . Control panel of CO <sub>2</sub> shall comply with HTM 02-01/NFPA 99C/DIN/EN/ISO-7396-1 standards and bidder should submit valid quality certificates along with the bid.
	The Manifold supply system shall provide carbon dioxide piped distribution system.
	The Manifold system should be in such a way that it increases flexibility and allows easy enlargement of the manifold capacity in case of future expansion. Should be complies with HTM 02-01/ NFPA 99 C/EN/DIN/ ISO 7396-1 standards and bidder should submit valid quality certificates along with the bid.
	Semi Automatic Control panel for CO <sub>2</sub> System
	The Manifold Control System should supply the gas from both left and right hand manifold banks. Operation and performance criteria should fully satisfy the requirements of HTM 02-01/ NFPA 99 C/EN/DIN/ ISO 7396-1 standard. The semi automatic CO <sub>2</sub> control panel should comply with the standard followed and bidder should submit valid quality certificates along with the bid.
	The Manifold Control System shall supply on uninterrupted flow of 500 L/min. to a 400 k Pa (4 bar) distribution system. Either the left or right hand manifold bank may be designated "Duty" and should automatically changeover to supply the distribution system from the "Standby" bank when pressure in the "Duty" bank falls to a predetermined level.
2	<b>VACUUM SYSTEMS (Package unit)</b>

	The System should fully satisfy the requirements of HTM 02-01/ NFPA 99 C/EN/DIN/ ISO 7396-1 standard and bidder should submit valid quality certificates along with the bid.
<b>2.1</b>	<b>Vacuum Pump Module</b>
	It should be Oil Sealed Rotary Vane Type to produces the plant output of { minimum Liters Per Minutes(LPM) Plant capacity } as mentioned in BOQ of respective institute as primary and same as standby
	Designed flow capacity should be minimum of LPM capacity as mentioned in BOQ of respective institute. The vacuum plant shall comprise air-cooled, oil lubricated rotary vane vacuum pumps suitable for both continuous and frequent start/stop operation at inlet vacuum levels between 500mmHg and 660 mmHg.
	The control system should normally employ automatic rotation of the lead pump to maximize pump life and ensure even wear. Vacuum pump inlets shall include a wire mesh filter and integral non-return valve to prevent oil suck back and pressure increases in the vacuum system.
	Each vacuum pump shall be fitted with anti-vibration pads between the pump foot and mounting frame. The plant shall be fitted with duplex bacteria filter system.
<b>2.2</b>	<b>Vacuum Receiver</b>
	The vacuum receiver shall be made of rust free corrosion resistant steel and fabricated as per ASME/BS/ISO for a vacuum pressure of 760mmHg. It should include bypass valves, manual drain valves, vacuum gauge. Vacuum reservoir shall have total volume of at least 100 % of primary plant output (capacity as mentioned in the tender) in one minute in terms of free air aspirated at normal working pressure.
<b>2.3</b>	<b>System Controls</b>
	<b>The control include individual self-protected combination motor controls with short circuit, single phase and thermal overload protection, individual control circuit transformers with fuse less/fused primary and secondary protection,</b> pressure sensors, temperature switches with reset buttons, and an electronic controller to automatically change the operating sequence of the compressors. The system should have a status display to show the system pressure, elapsed time, maintenance interval, fault conditions, and silence button, lighted Hand-Off-Automatic selector switches and safety disconnect operating handles.
	All required local alarm functions should be integrated into the packaged system. The circuitry should be designed so that the audible signal can be silenced and the visual indicator will remain until the fault has been cleared and the reset button resets. Local alarm functions should be annunciated for reserve pump in use
<b>2.4</b>	<b>Bacterial Filters</b>
	The filters should be designed for removal of solid, liquid and bacterial contamination from the suction side of vacuum pump systems, preventing damage to the pump and the potential biological infection of the surrounding environment. The dryer should be particulate filter dryer with ability to remove particles as small as 1micron.



	Each individual filter shall have the capacity to deliver full design flow such that one set is designated duty and the other will be standby. Bacteria filters shall have efficiency at least 99.999% when tested by the sodium flame method in accordance with BS 3928:1969/as per required standard utilising particles in the 0.02 to 2 micron size range. The pressure drop across each clean filter at 50% of the system design flow should not exceed 25 mm Hg (3 kPa) at a vacuum of 475mm of Hg (63 kPa). Bacteria filters shall be marked with the legend 'Bio-Hazard'.
	Each bacteria filter shall be provided with a transparent sterilizable collection jar to collect condensate. The total water capacity of the pressure vessels shall be at least 100% of the design flow rate of the plant in 1 minute in terms of free air aspired.
<b>2.5</b>	Accessories
	Accessories included for job site installation are inlet and discharge flexible connectors, vibration mounting pads, and source isolation valve, inlet check valve, thermal malfunction switch and vacuum control switch. Flexible connectors on inlet and exhaust of each pump, exhaust tee with union as well as copper tubing with Shutoff- cock for gauge/bypass valve and vacuum switch etc.
	All the filters should be covered under warranty period and CMC Period.
<b>3</b>	<b>DISTRIBUTION PIPING</b>
<b>3.1</b>	Piping specifications
	Copper pipe should be as per standard BS: EN 13348:2008/ ASTM B819 standards, Solid drawn, seamless, deoxidized, non-arsenical, half hard (hard can be accepted only for sizes 54mm or more), tempered and degreased copper pipe conforming to the standard. All copper pipes should be degreased & delivered capped at both ends. The pipes should be accompanied with manufacturers test certificate for the physical properties & chemical composition.
	Copper pipe must have reputed third party inspection certificate (Eg. Lloyd's or TUV or SGS).
	Fittings should be made of copper and suitable for a working Pressure of up to 17bar and especially made for brazed socket type connections. All valves shall be pneumatically tested for twice the working pressure and factory degreased for medical gas service.
	Copper fittings should comply with EN 1254:1 factory degreased and brazing filler metals should comply with EN 1044. Fitting should be degreased, individually packed for medical use.
	The minimum thickness of copper pipes of 35mm and above outer diameter, should be 1.2mm and the thickness of copper pipes less than 28mm outer diameter, should be 1mm as mentioned in respective Institute's BOQ.
<b>3.2</b>	Installation & testing
	Installation of piping shall be carried out with utmost cleanliness. Only pipes, fittings and valves that have been degreased and fittings shall be used at site. Pipe fixing clamps shall be of nonferrous or non-deteriorating plastic suitable for the diameter of the pipe.

	<p>Inert gas welding technique should be used by passing oxygen Free Nitrogen Gas inside the copper pipes during silver brazing, in order to avoid carbon deposition inside the copper pipes. Only copper-to-copper joints are permitted on site except threaded or flanged joints may be made where pipelines are connected to items such as valves and control equipment. No flux shall be used for joining Copper to Copper joints and on for joints made on site. Copper to copper joints shall be brazed using a 5% silver-copper phosphorous brazing alloy CP104. A total of 5 joints shall be cut out for examination to establish the quality of the joints being made on site. The insides shall be clean and free from oxides and particulate matter and the minimum penetration of the brazing alloy at any point shall be three times the wall thickness of the tube. If the joints examined do not conform to these requirements, then adjacent joints shall be cut out and examined until the extent of faulty workmanship has been made good. Copper-to-brass or gunmetal joints shall only be made under controlled conditions off site. The joints are ordinarily used to join short copper pipe tails to brass, gunmetal or bronze fittings to permit their connection into the pipeline. The sub-assemblies shall be degreased and individually sealed in bags or boxes before delivery to site.</p>
	<p>Adequate supports should be provided while laying pipelines to ensure that the pipes do not sag. Suitable sleeves shall be provided wherever pipes cross through walls / slabs. All pipe clamps shall be non-reactive to copper.</p>
	<p>After erection, the pipes are to be flushed with dry nitrogen gas and then pressure tested with dry nitrogen at a pressure equal to twice the working pressure or 150 psig, whichever is higher for a period of not less than 24 hours.</p>
	<p>Length and quantity of individual items (Copper pipes, AVSUs, Alarm panels, Isolation valves, Outlets, etc.) are mentioned. However quantity will be calculated and paid at actuals. Bidder should quote unit price for all the items as detailed</p>
	<p>Maximum interval between supports (Horizontal and Vertical)</p>
	<p>(12mm Pipe - 1.5m, 15mm pipe - 1.5m, 22mm pipe – 2m, 28mm pipe-2m, 35mm pipe-2.5m, 42mm pipe -2.5m, 54mm pipe - 2.5m, 76mm pipe – 3meter)</p>
<b>3.3</b>	<b>Painting</b>
	<p>All the pipes from manifold/plant upto the outlets should be painted with two coats of synthetic enamel paint and colour codification should be as per standards followed and with consultation with competent authorities of the Institute.</p>
<b>4</b>	<b>GAS OUTLETS</b>
	<p>Terminal Units (Gas Outlets) with probes/Adaptors for Vacuum &amp; CO2</p>
	<p>The gas outlets shall conform to HTM 02-01/ NFPA 99 C/EN/DIN/ ISO 7396-1. Front Loading Type Terminal Outlets should be designed to dispense medical gases (or an inlet for medical vacuum) to the secondary equipment (flow meters, Suction regulators, etc.) at the point of use and is gas specific so that secondary devices cannot be “attached” to the wrong gas. When not in use the gas in a non-flowing state within the Outlet (Terminal unit) sealed by “O” ring. The adapter when inserted pushes the poppet inside and the gas starts flowing and sealing is ensured by the “O” ring or a seat. The Outlets are Quick Connect Type and gas specificity is accomplished by "Pin indexing." The outlets should have following features:</p>
	<ul style="list-style-type: none"> <li>• Push to insert and press-to-release mechanism for probes.</li> </ul>
	<ul style="list-style-type: none"> <li>• Allows plugging of probes from front.</li> </ul>
	<ul style="list-style-type: none"> <li>• Self-sealing valve on disengaging the probe (Quick disconnect)</li> </ul>

	<ul style="list-style-type: none"> <li>• Smooth quite action.</li> </ul>
	<ul style="list-style-type: none"> <li>• Non return valve for on line servicing/ repairing</li> </ul>
	<ul style="list-style-type: none"> <li>• Indexed to eliminate inter-changeability of gas services</li> </ul>
	<ul style="list-style-type: none"> <li>• Color-coded gas specific front plate</li> </ul>
	<ul style="list-style-type: none"> <li>• Totally leak proof, safe &amp; easy to operate</li> </ul>
	<ul style="list-style-type: none"> <li>• Configurations possible: surface, flush &amp; Bead-head.</li> </ul>
	<ul style="list-style-type: none"> <li>• Bidder should submit valid quality certificates along with the bid.</li> </ul>
	<ul style="list-style-type: none"> <li>• All outlets should have respective labels (i.e.CO2 / Vacuum etc.) displayed accordingly.</li> </ul>
<b>5</b>	<b>AREA VALVE SERVICE UNIT</b>
	Area valve service units should fully comply and meet with HTM 02-01/NFPA 99C/EN/DIN/ISO7396-1. It should provide a zone isolation facility for use either in an emergency or for maintenance purpose The Area Valve Service Unit should incorporate a ball valve in a lockable box with emergency access. It should be reliable and easy to operate, easy purge, sample & pressure testing and emergency supply system.
	Medical gas/vacuum services should be fixed copper, piped to and from their respective area valve service units. A color coded service identity label should be fitted behind the valve handle. The unit should provide a zone isolation facility. Gas Flow direction should be indicated.
	The box shall be made from extruded aluminium to prevent corrosion. All wetted parts (except seals and gaskets) should be brass or copper. Each unit assembly should be factory tested for gas tightness. Rubber pipe grommets should be provided to ensure any leaking gas does not escape from the unit into a wall cavity. All visible aluminum surfaces should be powder coated.
<b>6</b>	<b>ALARM SYSTEM</b>
<b>6.1</b>	Medical Gas Area Alarm
	The medical gas area alarms should be capable of monitoring up to 2 medical gas services (As specified in BOQ of respective institute) by means of pressure sensors which detect deviations from the normal operating limits of either pressure or medical vacuum. The area alarm should have a digital display of pressures. The medical gas area alarm should fully satisfy the HTM 02-01/ NFPA 99 C/EN/DIN/ISO 7396-1 requirements and should submit valid quality certificates along with the bid.
	An audible warning should sound simultaneously with any failure indication and a mute facility should be provided. "
	Note: The bidder may offer combined unit of AVSU & alarm, bidder has to match the quantity of AVSU/Alarm whichever is higher
<b>7</b>	<b>Line Isolation Valves</b>
	The Lockable line valves must degreased and complete valve with stuffed pipe & fittings, factory tested and complies with HTM 02-01/ NFPA 99 C/EN/DIN/ISO 7396-1 standard.
<b>8</b>	<b>High pressure tubes for CO2 &amp; Vacuum</b>

	It should be colour coded for individual services i.e.grey for carbondioxide and Yellow for Vacuum, Black for air. Antistatic rubber tube should be as per ISO standards. (The 200m Hose- Gas wise requirement should be taken from respective institute before supply total lengths should be 200m inclusive of all type. If institute requires more than payment will be made on actual basis as per finalized BOQ rate)
<b>9</b>	<b>Electrical Wiring with Electrical Panels –</b>
	All wiring inside the Manifold Room and Plant room required for MGPS equipment and General electrification. Institute will provide one point supply only. Other are under the scope of bidder. All the work should be as per BIS standard and material used should be reputed make only.
<b>10</b>	<b>Site Modification –</b>
	<b>i. Bidder should be responsible for antistatic ironite/cota/any heavy duty flooring in the manifold room and thickness of flooring not less than 1 inch.</b>
	iii. Bidder should be responsible for all necessary arrangements for the installation of CO2 and Vacuum Plant
<b>11</b>	<b>Manufacturer Authorization</b>
	The bidder should submit a mandatory letter of authority from the manufacturer, with name of the manufacturing company for major products quoted by them such as:
<b>1</b>	Carbon Dioxide System
<b>2</b>	Medical Vacuum Plant (Package unit)
<b>3</b>	Gas outlet points/ Terminal units with probe
<b>4</b>	Medical gas alarm panel
<b>5</b>	Copper Pipes
<b>6</b>	Line Isolation Valves

**CHAPTER F****LIST OF APPROVED MAKES****CIVIL WORKS**

<b>S.No</b>	<b>Details of equipment/ material</b>	<b>Make/ Manufacturer</b>
1	Adhesive for Ceramic tiles	Cera-Chem/ Pidilite / Ardex Endura / Sikka / Fosroc
2	Adhesive for Wood Work	Fevicol/ Vamicol/ Dunlop
3	Aluminium Composite Panels	Aludecor / Alucobond / Alstone/ Alstrong/ Eurobond/ Virgo/ Viva
4	Aluminium Extrusion/ Sections	Hindalco / Jindal / Indal /Bhoruka
5	Anchor Fastner	Hilti/ Fischer/ Bosch
6	Anti – Termite Treatment	It should be done by permanent members of IPCA as approved by Engineer-in-Charge.
7	Automatic variable temperature control / fixed temperature control faucets	Jaquar/ Parry/ Angash
8	Back up rod	Supreme Industry or equivalent
9	Ball Cock	Sant/ L&T/ Audco/ Gpa
10	Ball valves with floats	Zoloto/ Leader/ Sant/ Jayco
11	Batch Mix Concrete (BMC) / Ready Mix Concrete (RMC)	The contractor to install his own computerized batching plant of suitable capacity and arrange for Transit Mixers, pumps etc. as per approval of Engineer – In-Charge.  <b>OR</b> The RMC shall be procured from the source as approved by Engineer- In- Charge. RMC producing plants of the main Cement producers shall be preferred.
12	Brass stop & Bib Cock	Jaquar / Hindware / Parryware
13	Butterfly valves	GM / Uday / Parthiv / Zoloto
14	C.I. Manhole Covers	Neco/ R.I.F./ B.I.C./ Hepco/ SKF/ Kajeco
15	C.P. Fittings / Mixer / Pillar taps/ C.P brass angle valve/ Valves Washers, C.P. brass accessories	Jaquar/ Queo / Hindware / Kohler
16	C.P. Waste, Spreaders, Urinal	Jaquar/ Queo / Hindware / Kohler
17	Carpet Flooring & Skirting (Floatax)	Forbo/ Polyflor/ Tarket

18	Cement	Refer GoK Circular No.24/2022-Fin dtd 19.03.2022. BIS mark with IS code No. and License number (CM/L.no) is insisted in Cement and to be approved by Engineer-in-Charge
19	Cement: White	Birla White/ JK / Ultratech Cement Ltd.
20	Clear Glass / Clear Float Glass / Toughened Glass	Saint Gobain (SG)/ Asahi India Safety Glass Ltd/ Modiguard
21	Cockroach Trap	Chilly/ Player/ Camry/ Viking
22	Compressed Chequered tiles	Somany/ Kajaria/ Nitco/ Orient/ Johnson
23	Concrete Additive	Sikka/ Cera-Chem/ Pidilite/ Fosroc/ / MC Bauchemie
24	Copper Fittings (Capillary)	Yorkshire Imperial, U.K./ Rajco Metal Works Mumbai/ IBP Conex Ltd.
25	CPVC Pipes & Fittings	Supreme/ Astral/ Finolex/ Prince
26	Curtain Rod/Drapery Rod	Vista work/ Mac Décor
27	Dash Fasteners	Hilti/ Fischer/ Bosch/ Canon
28	Disc Filter	Azud/ Spain/ Amaid/ Arkal
29	Door closer / Floor spring	Everite/ Hardwyn/ Doorma (Frameless Door)/ Godrej/ Geze
30	Door Locks	Godrej/ Harrison/ Link
31	Door Seal – Woolpile Weather Strip	Anand Reddiplex/ Enviroseal
32	Doors & Windows Fixtures / Fitting.	Everite/ Classic/ Crown/ Earl Bihari
33	Drainage Pumps	Grundfos/ KSB/ Salmson/ Kirloskar/ DP Holland
34	Ductile Iron Fittings (IS:9523)	Electrosteel/ Kesoram/ Tisco/ Jindal
35	Ductile Iron Pipes (IS:8329)	Electrosteel/ Kesoram/ Tisco/ Jindal
36	E.P.D.M Gaskets	Anand Reddiplex/ Enviro Seals
37	Epoxy Flooring	Fosroc/ Dr. Beck/ Flamaflor/ BASF/ Ardex Endura
38	False Ceiling - Calcium Silicate Boards & Tiles	India Gypsum/ Aerolite/ RAMCO (Hilux)/ Saint Gobain (Gyproc)
39	False Ceiling - Metal	Armstrong/ Hunter-Douglas/ USG Boral/ Unimet
40	False Ceiling - Mineral fibre	Armstrong/ Decosonic/ USG/ AMF/ Saint Gobain (Gyproc)
41	Fire rated Doors & Frames	Shakti-Hormann/ Navair/ Pacific
42	Fire Rated Glass	Asahi India Safety Glass Ltd./ Modi/ Saint Gobin
43	Fire Retardant Paint	Navair / Nullifire/ Berger
44	Fire Seal	Sealz/ Alstroflam/ Abacus
45	Fire: Door Closures, Mortice Dead locks	Becker Fire Solution/ Inersoll Rand LCN Series/ Dorma TH Series/ Godrej

46	Fire: D-Type Pull Handles	Becker Fire Solution/ Dorma/ Hardwin/ Godrej
47	Fire: Hinges	Becker Fire Solution/ Inersoll Rand/ Dorma
48	Fire: Panic Exit Devices	Becker Fire Solution/ Inersoll Rand LCN Series/ Dorma PHA Series/ D-line
49	Fire: Tower Bolts	Suzu/ Nulite/ Dorset/ Dorma
50	Glass : Float & Mirror	Saint Gobain/ Asahi India Safety
51	Glass for Aluminum Doors/ Windows/ Structural Glazing	Modiguard/ Saint Gobain/ Asahi India Safety Glass Ltd.
52	Glass Wool / Insulation Boards	Rockwool/ UP Twiga/ Llyod Insulation
54	Grab bars and Disabled Hardware	Dorma/ D-line/ Jaguar/ Hindware/ Kohler
55	Gypsum Board / Gypsum False Ceiling/ Gypsum Partitions	USG Boral/ India Gypsum/ Saint Gobain (Gyproc)
56	Hand Drier	Kopal/ Utech Systems/ Euronics Automat
57	MS Saddle with G.I. Riser	Harvel/ Alprene/ Rain Bird, USA
58	Night Latch	Godrej/ Harrison/ Link / Ozone
59	OT: Conductive Tile Flooring: ESD-Control Tile Flooring	Tarkett/ Gerflor/ Armstrong
60	P.T.M.T. Fitting	Cera/ Prayag/ Polytuf
61	Paints - Cement Based	Snowcem Plus/ Asian/ Dulux/ Berger/ Nerolac/ Jotun
62	Paints - Epoxy paint	ICI Dulux/ Nerolac/ Cico/ Sikka/ BASF/ Berger/ Pidilite/ Jotun
63	Paints - Other Paints / Primer	ICI Dulux/ Asian / Nerolac/ Berger/ Nippon/ Jotun
64	Paints - Plastic Emulsion Paint	ICI Dulux/ Asian / Nerolac/ Berger/ Nippon/ Jotun
65	Paints - Synthetic Enamel Paints	ICI Dulux (Gloss)/ Asian (Apcolite)/ Berger/ Nerolac/ Jotun
66	Paints - Texture paint	Spectrum/ Unilite Heritage/ Asian/ Berger/ Jotun
67	Plywood/Block board/Ply board	Duro/ Greenply/ Century/ Kitply/ National/ Archiply/ Merino
68	Polycarbonate Sheets	Galina/ GE Plastic / Skyarch/ Polytechno/ Tuflite
69	Polyethylene Storage Tank	Sintex / Polycon/ Fusion
70	Powder Coating Material pure Polyester	Jotun / Berger / Goodlass Nerolac
71	Pre-coated Galvanised Steel Sheet	Tata BlueScope / Llyod Insulations India Ltd / S.R.Metals
72	Pre-Laminated Particle Board	Novapan /Century /Green Ply /AK Plywood/ Merino
73	PVC Doors	Sintex/ Polyex/ Rajshri

74	PVC Flooring	LG Floors / Gerflor / Premier Vinyl flooring / Armstrong
75	PVC flushing cistern	Commander / Parryware / Hindware/ Jaquar
76	PVC Pipes & fitting, Waste & Vent Pipes and fittings, Type B PVC Casing & Screen Pipes	Prince / Supreme / Finolex / Astral
77	PVC Water Stops	Prince /Supreme/ Finolex /Astral
78	R.C.C Pipes	Indian Hume Pipe/ Pragati Concrete Udyog/ ISI Marked Pipes/ Daya/ KK/ JSP
79	R.O. Water Purifier Unit	Eureka Forbes/ Kent/ Zero B/ Dr. RO / Hindustan Lever
80	Reinforcement Steel / Structural Steel	Refer GoK Circular No.24/2022-Fin dtd 19.03.2022. BIS mark with IS code No. and License number (CM/L.no) is insisted in Steel and to be approved by Engineer-in-Charge
81	RQRC Hydrant	Harvel/ Alprene/ Rain Bird, USA
82	RQRC Key	Harvel/ Aqua/ Drip & Drip
83	Sensor Operated Auto Flushing System Urinals	Jaquar/ Hindware/ Parryware
84	Silicon sealants /Weather Sealant / Structural Glazing Sealant	GE- Silicon/ Pidilite/ Forsoc/ CICO/ Sikka
85	Sluice valve / NRV	Kirloskar/ IVC/ Kilburn/ Zoloto/ Castle/ Leader/ L&T/ Audco
86	Stone ware pipes & Gully Traps	Perfect / SKF/ R.K/ Hind/ Anand/ Burn
87	Submersible Drainage pump	Crompton/ Kirloskar/ Grundfos/ Wilo - Mather & Platt / JS/ ITT
88	Sunken Portion Treatment	Sika/ CICO/ BASF/ Bostik/ Dr. Fixit/ Ardex Endura/ MYK Arment
89	Super plasticizer	CICO/ Roffes Construction Chemicals/ Pidilite Industries/ Bostik
90	Tiles: Ceramic tiles	Kajaria / Johnson/ RAK/ AGL/ Somany
91	Tiles: Glazed (Ceramic) tiles	Kajaria / Johnson/ AGL/ RAK/ Somany
92	Tiles: Heat Resistant Terrace Tiles	Thermatek or equivalent
93	Tiles: Vitrified Tiles (Double / Multy Charged)/ Germ free	Kajaria/ Johnson/ RAK/ AGL
94	UPVC Pipes & fittings	Finolex/ Supreme/ Astral/ Prince/AKG
95	Vacuum Dewatered Flooring	Tremix/ Sun Build/ Avcon technics
96	Valve Box	Rain Bird/ Carson Brook/ Dura
97	Veneered Particle Board	Greenply/ Century/ Novapan
98	VFD Pump	Crompton/ Kirloskar/ Grundfos/ Wilo - Mather & Platt



99	Vibration Eliminator Resisto-flex Pads & Connections	Relay Corpn./ Kanwal
100	Vitreous China/ Sanitary ware/ WC Pan/ European WC/ Urinal/ Wash basin/ PVC Waste Pipe/ Waste coupling/ Towel Rail	Hindware/ Jaquar/ Queo/ Kohler
101	Water Cooler	Blue Star/ Voltas/ Usha/ Godrej
102	Water Meter	Kranti/ Anand/ Kant/ Aristo/ Dasmesh/ Chambal
103	Water Proofing treatment Agencies	To be approved by the Engineer-in-Charge
104	Water Proofing Materials	Cera-Chem/ Fosroc/ Sikka/ Pidilite/ STP/ Ardex Endura/ MYK Arment
105	Water supply pumps	Grunfos/ Kirloskar/ Crompton/ Wilo -Mather & Platt
106	Gun Metal gate valve	Leader/ Krioloskar/ Sant/ Zoloto/ Jaquar
107	Brass Ball Valve	Supreme/ Finolex/ Astral/ Kirloskar
108	CP Brass Fittings	Jaquar/ Hindware/ Queo/ Kohler
109	SS Gratings/ Soap Dish/ Towel Rail and other SS fitting	Camry/ Glacier/ Gem/ Jaquar/ Grohe
110	SW pipes & gully trap	Perfect/ S.K.F/ R.K/ Hind/ Anand
111	RCC NP2 Pipes	Spun pipes/ Hume pipes/ MCP
112	Safety foot Steps	MCP/ GP/ Surabh
113	PVC Floor trap	Jay/ Saffron/ Platinum/ Khodiyar/ Supreme/ Finolex
114	Centrifugal pump set	Kirloskar/ DP Holland/ CR pumps/ Wilo - Mather & Platt
115	Crash Guard/ Corner Guard	MDD/ TSI/ LSR/ Radius
116	Door Shutter - Flush	Duro/ Greenply/ Archiply/ Century/ Merino/ AK Plywood
117	Fire: Sealant	Birla/ 3M/ Hilti
118	OT: Anti -Fungal Paint	Ardex Endura/ Sikka by Liquid Plastic/ Viesmann/ SSK/ TRILUX
119	Paver blocks/ Tiles (All Types)	NITCO/ ULTRA/ DURACRETE
121	Stainless Steel Sink	Hindware/ Neelkanth/ Nirali
122	UPVC Doors & Windows	Fenesta/ Lingel/ CASSA/ Evolution/ Kommerling/ NCL Wintec/ Duroplast/ Aparna Venster
123	UPVC Toilet Doors	AMD Overseas/ Fenesta/ Lingel/ CASSA/ Evolution/ Kommerling/ NCL Wintec/ Duroplast/ Aparna Venster

**ELECTRICAL WORKS**

<b>S.No</b>	<b>Details of equipment/ material</b>	<b>Make/ Manufacturer</b>
1	USS (Resin Cast)	Intrans/ Unipower/ Resitech/ KEL
2	Bus Trunking	Siemens/ Schneider/ L&T/ ABB
3	Diesel Engine	Cummins/ VolvoPenta/ Perkins/ Kirloskar
4	Alternator	Stamford/ Leroy Somer/ Crompton/ Kirloskar
5	ACBS, MCCBS (Circuit Breakers Above 400A to be Microprocessor based)	Schneider/ Siemens/ ABB/ L&T/C&S
6	Panels	CPRI/ERDA Certified Panel Fabricators
7	MCBS, RCCB, Isolator, MCB Distribution Board	Legrand/ Havells/ Hager/ ABB/ L&T/ C&S
8	Industrial Plug & Socket	Legrand / Havells/ Schneider/ HPL
9	Capacitors	Schneider/ Sprague/ Siemens/ L&T/ Shreem
10	Contactors, Switch Disconnecter Unit, Change Over Switch	Schneider/ Siemens/ ABB/ L&T
11	Indication Lamp, Selector Switch, Push Button	Schenider/ Siemens/ L&T/ABB/ Kaycee/ Vaishno
12	HT/LT Cables	Universal/ KEI/ Polycab/ RR Kabel/ Finolex
13	HT Cable Termination Kit	Raychem/ M Seal /Birla-3M
14	PVC Wire-FRLS(Copper)	Havells/ KEI/ Polycab/ RR Kabel/ Finolex/ V Guard/Panasonic
15	Modular Switches	MK – Blenze Plus (From Honeywell) / Legrand - (Myrius) / Wipro North West -

		Nowa / Anchor Panasonic – Roma Plus/ Crabtree Athena
16	UPS	Vertiv – Emerson / APC - Schneider / Socomec/ Legrand
17	Storage Battery	Amaron / Exide / Panasonic
18	Solar System Panels	Tata Power/ Renewsys Solar/ Vikram/ Waaree/ Premier Energies
19	Solar Inverter	ABB/ Delta/ Goodwe
20	Relay & Controls	Siemens / Beluk / Schneider /L&T/Alstom
21	CTS / PT	Kappa / Pragathi / AE / Rishabh / Intrans / Resitech/ PGR Powertech
22	Cable Trays	Profab / RR Ispat /Patni / Fixotech
23	PVC Conduit & Accessories	Precision / Konseal / Balco/AVON PLAST
24	Ceiling /Exhaust Fan	Havells / Usha / Crompton / Orient/ Atomberg/ V Guard
25	Light Fittings	Havells / Wipro / Crompton / Philips
26	PIR Sensors	Havells / Wipro / Crompton / Philips
27	Street Light Pole	Havells / Wipro / Crompton/ RR Ispat
28	Ceiling Rose / Batten Holder	Panasonic Anchor / Havells/ HPL/ Precision
29	Multifunction Meters, Voltmeter, Ammeter	L&T / Schneider / AE / Secure / Rishabh / Meco
30	Cable Gland & Lugs	Hex / Janson / Dowells / Comet
31	Lightning Protection System	To Comply IEC -62305 Part-3 Furse / OBO Bettermann /Dehn / Erico / Cape

**ELV**

**FIRE ALARM SYSTEM**

<b>S.No</b>	<b>Details of equipment/ material</b>	<b>Make/ Manufacturer</b>
1	System Integrator	Authorised OEM Vendor From Honeywell / Siemens/ Tyco/ Bosch
2	Armoured FRLS Copper Cable For Fire Alarm System	Universal / KEI /Polycab /RR Kabel / Finolex
3	Addressable Type Smoke Detector	Honeywell /Siemens / Tyco / Bosch
4	Addressable Type Multi Detector	Honeywell /Siemens / Tyco / Bosch
5	Addressable Type Manual Call Point	Honeywell /Siemens / Tyco / Bosch
6	Addressable Type Sounder With Strobe	Honeywell /Siemens / Tyco / Bosch
7	Power Supply Unit For Sounder / Strobe	CE /UL /BIS Certified Products / Bosch
8	Addressable Type Isolator Module /Control Module / Monitor Module	Honeywell /Siemens / Tyco / Bosch
9	Addressable Type Fire Alarm Control Panel	Honeywell /Siemens / Tyco / Bosch
10	Response Indicator	Agni/ Ravells / Bosch
11	Addressable Type Call Point	Honeywell /Siemens / Tyco / Bosch
12	Addressable Type Fault Isolator Module	Honeywell /Siemens / Tyco / Bosch
13	Application Software – Fire Alarm System	Honeywell /Siemens / Tyco / Bosch

**DATA AND VOICE SYSTEM**

<b>S.No</b>	<b>Details of equipment/ material</b>	<b>Make/ Manufacturer</b>
1	PVC Conduit & Accessories	Precision / Konseal / Balco/AVON PLAST
2	GI Back Boxes	MK / Legrand / Wipro / Anchor Panasonic / Havells/CRABTREE
3	UTP cat 6 cable, 4 pair	D Link/ Schneider/ Belden/ Legrand
4	Data Socket, RJ 45	MK – Blenze Plus (From Honeywell) / Legrand - (Myrius) / Wipro North West - Nowa / Anchor Panasonic – Roma Plus / Crabtree Athena
5	Face Plate For Telephone & Data	MK – Blenze Plus (From Honeywell) / Legrand -

	Sockets	(Myrius) / Wipro North West - Nowa / Anchor Panasonic – Roma Plus / Crabtree Athena
6	Patch Panel (All Passive Components)	Commscope / Belden / Legrand / Schneider/D Link
7	Switches, Modules, Transceiver (All Active Components)	Cisco – Sg Series / Netgear / D Link / Zyxel
8	Rack	Legrand / D Link / Netrack / Wal Rack
9	Telephone Exchange	BPL / Alcatel / Siemens – Progility / Nortel
10	Paired Telephone Cable, Unarmoured/Armoured	Universal/KEI/Polycab/RR Kabel/ Finolex
11	Terminal Block For Telephone	Krone/Connectwell/Schneider
12	Optical Fibre Cable & Accessories	Belden / Schneider / D Link/ Legrand
13	PVC Surface Box	OEM to be Same as Above
14	Cable Tray	Profab / RR Ispat /Patni / Fixotech
15	LIU	D Link / Schneider / Belden / Legrand
16	Pigtail	D Link / Schneider / Belden / Legrand
17	Fiber Patch Cord	D Link / Schneider / Belden / Legrand
18	UTP Patch Cord	D Link / Schneider / Belden / Legrand

**PUBLIC ADDRESS SYSTEM**

S.No	Details of equipment/ material	Make/ Manufacturer
1	System Integrator	Authorized Oem Vendor From Bosch / ATIES / Honeywell
2	Ceiling/Wall Speakers	Bosch/ ATEIS / Honeywell
3	Amplifier	Bosch/ ATIES / Honeywell
4	Call Station/Voice Alarm Router/Voice Alarm Keypad/Voice Alarm Controller	Bosch/ ATIES / Honeywell
5	Gooseneck Microphone	Bosch/Honeywell/ ATIES
6	FRLS Shielded Speaker Cable	KEI/ Polycab/ RR Kabel/ Finolex
7	Rack	Legrand / D Link / Netrack / Wal Rack

**ACCESS CONTROL SYSTEM**

SI No	Item Description	Approved Make
1	Face Recognition With Finger Print Readers	Honeywell Suprema / Idemia / Invixium / Dorma

2	Access Control And Basic Attendance Software	Honeywell Winpak / Software House / Lenel / Genetec
3	ACS Management Server	Dell / HP / Lenovo
4	Multi Core FRLS Screened Shielded Cable	Universal / KEI / Polycab / RR Kabel / Finolex
5	Cat 6 Shielded Armored Cable	D Link / Schneider / Belden / Legrand
6	Cat6 Patch Cable	D Link / Schneider / Belden / Legrand
7	Electromagnetic Lock	Assa Abloy / Faradays / BEL / Dorma

**CCTV SYSTEM**

SI No	Item Description	Approved Make
1	PVC Conduit	Precision / Balco / Conseal / Avon Plast
2	Cat 6 Cable	D Link / Schneider / Belden / Legrand
3	Patch Panel	D Link / Schneider / Belden / Legrand
4	POE Switch	Cisco – SG Series / Netgear / D link / Zyxel
5	Patch Cord	D Link / Schneider / Belden / Legrand
6	Server PC	Dell /HP /Lenovo
7	Hard Disk	Seagate / LG / Thoshiba / Dell / Sandisk
8	LED Display	Sony / LG / Samsung
9	Network Rack	Legrand / D Link / Netrack / Wal Rack
10	IP Based IR Varifocal Dome Camera	Bosch / Axis / Honeywell / Tyco / Avigilon / Pelco
11	CCTV Vendor	To be authorized by OEM
12	Video management software	Bosch / Axis / Honeywell / Tyco / Avigilon / Pelco
13	IP Based IR Varifocal Dome Camera	Bosch / Axis / Honeywell / Tyco / Avigilon / Pelco
14	IP Network Video Recorders 32 Channel	Bosch / Axis / Honeywell / Tyco / Avigilon / Pelco

15	24-Ports L2 Managed Switch	Cisco – SG Series / Netgear / D link / Zyxel
16	24 Port- Fully Loaded Patch Panel	D Link / Schneider / Belden / Legrand

## AV SYSTEM

SI No	Item Description	Approved Make
1	Column Array Loudspeaker	Tannoy / Martin Audio / Bose
2	Ceiling Speaker	Tannoy / Martin Audio / Bose
3	Pan Tilt Bracket	Tannoy / Martin Audio / Bose
4	Subwoofer	Tannoy / Martin Audio / Bose
5	Wireless Handheld Microphone	Sennheiser / Beyerdynamics / Audio Technica
6	Gooseneck Microphone	Sennheiser/ Beyerdynamics / Audio Technica
7	Power Amplifier	Labgruppen / Bose / Martin Audio
8	Digital Audio Processor	Klark Teknik / Bose / Symetrix
9	Cable Cubby	Kramer / Atlona / Extron
10	Matrix Switcher	Atlona / Extron / Crestron / Kramer
11	Interactive Display	Cloudwalker / Gladwin / Senses
12	PTZ Camera	Sony QSC / Newtek
13	AV Interface With 3 Channel	Clearone / Biamp /Atlona
14	SDI To USB Capture Card	Datavideo / Atlona / Crestron
15	Client CPU	Dell / HP / Lenovo
16	Microphone Cable / Speaker Cable	Belden / Krystal / Kramer / Extron
17	Shielded Twisted Pair Cable	Belden / Kramer / AMP
18	HDMI Cable	Atlona /Extron / Kramer / Crestron
19	USB-C Cable	Atlona / Extron / Kramer / Crestron
20	RG-59 Cable	Belden / Krystal / Canare
21	Equipment Rack	Legrand / D Link / Netrack / Wal Rack

**HVAC SYSTEM**

<b>S.No</b>	<b>Details of equipment/ material</b>	<b>Make/ Manufacturer</b>
1.	GI Sheets	HSL/ Jindal/ SAIL/ TATA
2.	Factory Fabricated Duct	Rola Star/ Seven Star/ Zeco/ Multiline
3.	Flexible Duct	Ruskin Titus/ System Air
4.	Copper pipe	Mandev/ Mexflow/ Totaline
5.	Grilles/ Diffusers/ Louvers/ Dampers	Air master/ Systemaire/ Ruskin Titus
6.	Fire Dampers	Carryaire/ Airmaster/ Ravistar
7.	Open & Closed Cell Nitrile Rubber Insulation(thermal & acoustic)	Armacell/ K-flex/ ALP
8.	Air Filters & HEPA filters	Aerofoil/ Pyramid/ AAF/ Thermodyne
9.	Exhaust/ Duct Fans	System Air/ Kruger/ Nicotra/ Almonard
10.	Thermostat	Anergy/ Honeywell/ Johnson Control/ Siemens
11.	Drain Pipe	Ashtral/ Finolex/ Prince/ Supreme
12.	Aluminium Conductor Cables	Finolex/ NICCO/ Havells/ Gloster

**FURNITURE**

<b>S.No</b>	<b>Details of equipment/ material</b>	<b>Make/ Manufacturer</b>
1	Seminar Chair	Nilkamal/Transteeel/Godrej
2	High back Chair	Nilkamal/Godrej/ Featherlite
3	Table	Talin/Skyline/Godrej

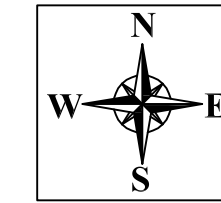


**RO PLANT**

<b>S.No</b>	<b>Details of Equipment</b>	<b>Make/ Manufacturer</b>
1	Filter Feed Pumps	Kirlosker/ lubi / CRI
2	Pressure sand Filter - MS	Intiative/Aventura/pentair
3	Dosing Pump	E- Dos/ Xeed/lubi
4	Pipe & fittings - UPVC	Astral / Finolex/ Ashirwad
5	Electrical Control Panel	GES/ASTRO/ L&T
6	Components of the Control panel	ABB/ L&T/Schneider
7	Electrical Cable	Polycab/ RR /Anchor
8	Float Switch	Aster/ Sinicon/ JKN
9	Pressure Gauge	Baumar/zoloto/RS PRO
10	UV	ALFA/PHILIPS/UV plasma

**MGPS MATRIX - VIROLOGY LAB - THONNAKKAL**

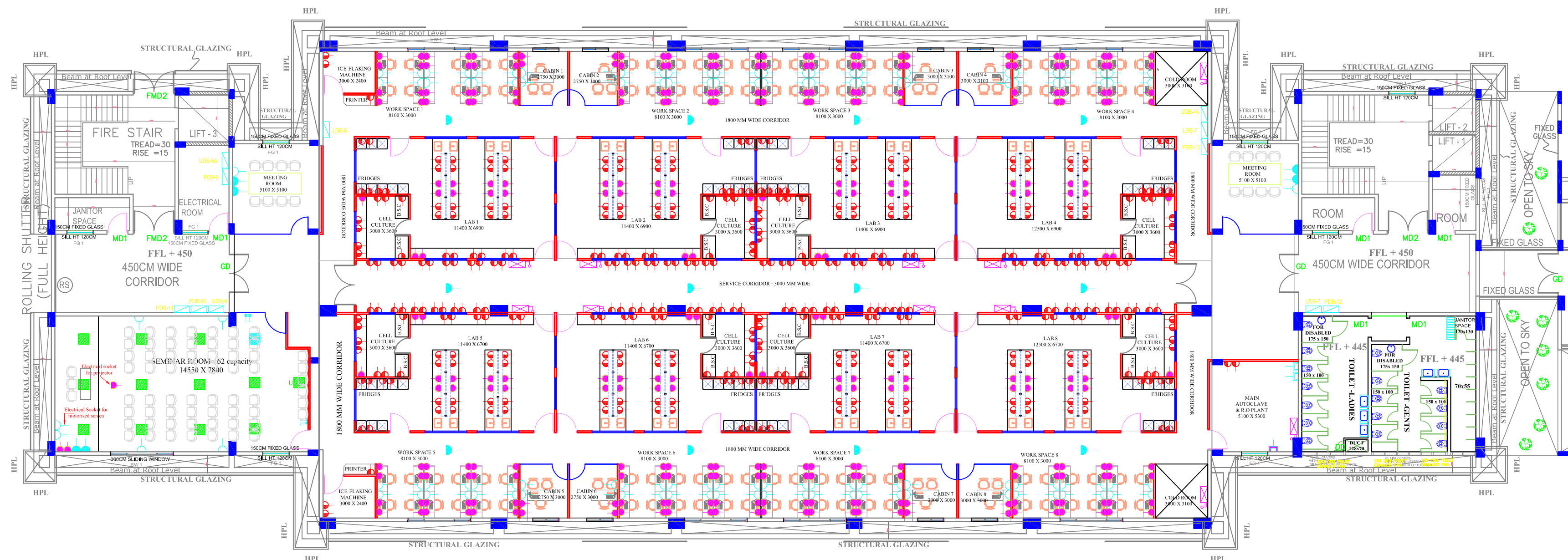
						Alarm Panels	AVSU	Isolation Valves			
FLOOR	LOCATION	VACUUM	CO2	VACUUM	CO2	Alarm Panel - 2 Gas	AVSU - 2 Gas	15 mm Isolation Valve	22 mm Isolation Valve	28 mm Isolation Valve	35 mm Isolation Valve
SECOND	LAB 1	4	1	160		1	1	1	1		
	LAB 2	4	1	160				1	1		
	LAB 3	4	1	160				1	1		
	LAB 4	4	1	160				1	1		
	LAB 5	4	1	160		1	1	1	1		
	LAB 6	4	1	160				1	1		
	LAB 7	4	1	160				1	1		
	LAB 8	4	1	160				1	1		
	Riser									1	1
	<b>TOTAL</b>		<b>32</b>	<b>8</b>	<b>1280</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>8</b>	<b>8</b>	<b>1</b>



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2. DO NOT SCALE THE DRAWING
3. ALL LEVELS ARE IN M
4. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.



**NOTE:**

1. Sockets shown in the Lab workbench / furniture shall be provided by furniture supplier. Wiring to the workbench / furniture shall be done by the electrical contractor.
2. The UPS will be located in the 1st floor UPS room.
3. 6 module box shall be provided for accommodating 2 nos of 6/16A socket with switch in the area of fridge in each lab.
4. The front plate of the socket and switch for UPS power shall be of different colour from the raw power.

**LEGEND:**

SL NO.	SYMBOL	DESCRIPTION
1		6A RAW POWER SOCKET WITH SWITCH
2		6A UPS SOCKET WITH SWITCH
3		6/16A RAW POWER SOCKET WITH SWITCH
4		6/16A UPS SOCKET WITH SWITCH
5		20A INDUSTRIAL POWER PLUG (IPP)
6		DISTRIBUTION BOARD
7		32A 1 PHASE ISOLATOR
8		40A 3 PHASE ISOLATOR

NAME OF CLIENT/ OWNER

INSTITUTE OF ADVANCED VIROLOGY  
 LIFE SCIENCE PARK  
 THONNAKKAL, TRIVANDRUM

A & E DESIGN & PMC



(A fully owned subsidiary of HLL Lifecare Ltd.)  
 (A Government of India Enterprise)  
 HLL Bhavan , Golden Jubilee Block,  
 Thiruvananthapuram, Kerala  
 Tel: +91 471 2775500  
 web : www.hllhites.com

PROJECT TITLE :

EST. OF BSL-II LAB FOR INSTITUTE OF  
 ADVANCED VIROLOGY, THONNAKKAL.

DRAWING TITLE : ELECTRICAL DRAWING

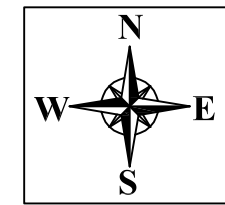
**POWER LAYOUT**

DWG NO :

HITES/IDD/IAV/BSL-2/2022-23/E-01

STATUS : FOR ESTIMATE PURPOSE

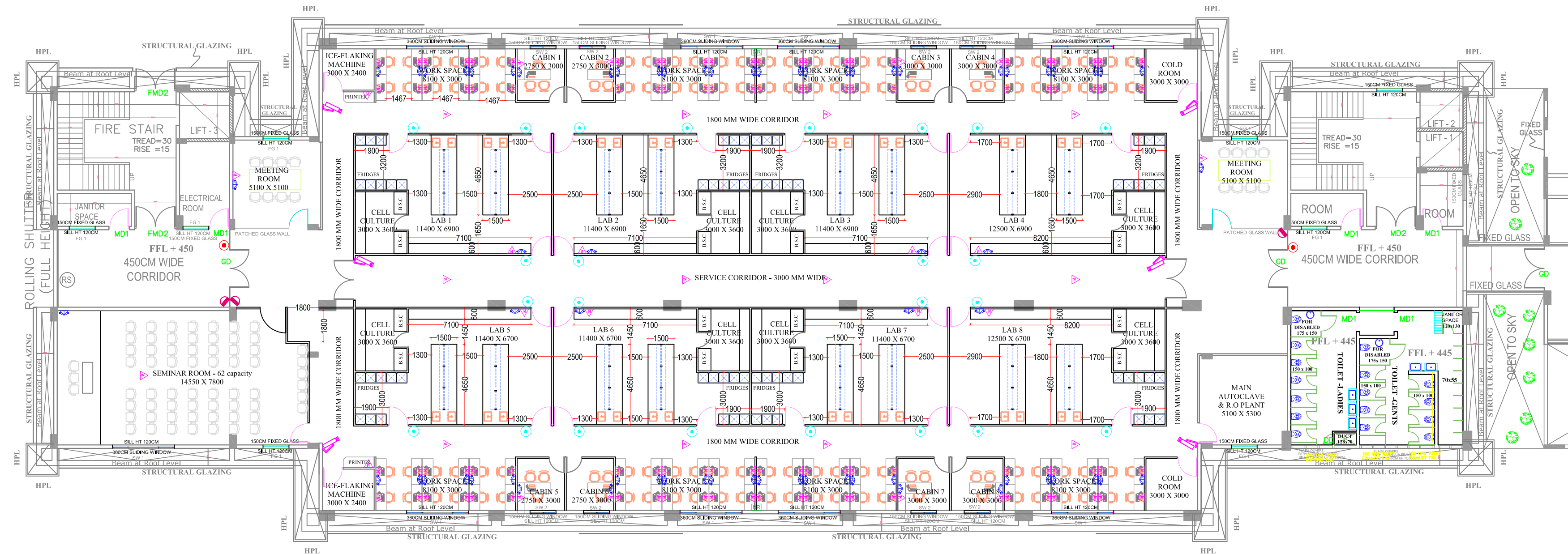
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# FIRST FLOOR

**LEGEND**

SL NO	SYMBOL	DESCRIPTION
1		DATA OUTLET
2		IP TELEPHONE OUTLET
3		NETWORK RACK(Telephone and Data)
4		ACCESS CONTROL PROVISION ONLY
5		ACCESS CONTROL READER
6		DOME CAMERA
7		BULLET CAMERA

NAME OF CLIENT / OWNER  
**INSTITUTE OF ADVANCED VIROLOGY**  
 LIFE SCIENCE PARK  
 THONNAKKAL, TRIVANDRUM

A & E DESIGN & PMC



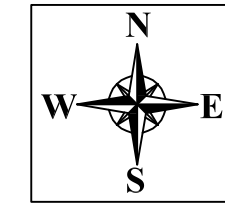
(A fully owned subsidiary of HLL Lifecare Ltd.)  
 (A Government of India Enterprise)  
 HLL Bhavan , Golden Jubilee Block,  
 Thiruvananthapuram, Kerala  
 Tel: +91 471 2775500  
 web : www.hllhites.com

PROJECT TITLE :  
**EST. OF BSL-II LAB FOR INSTITUTE OF ADVANCED VIROLOGY, THONNAKKAL.**

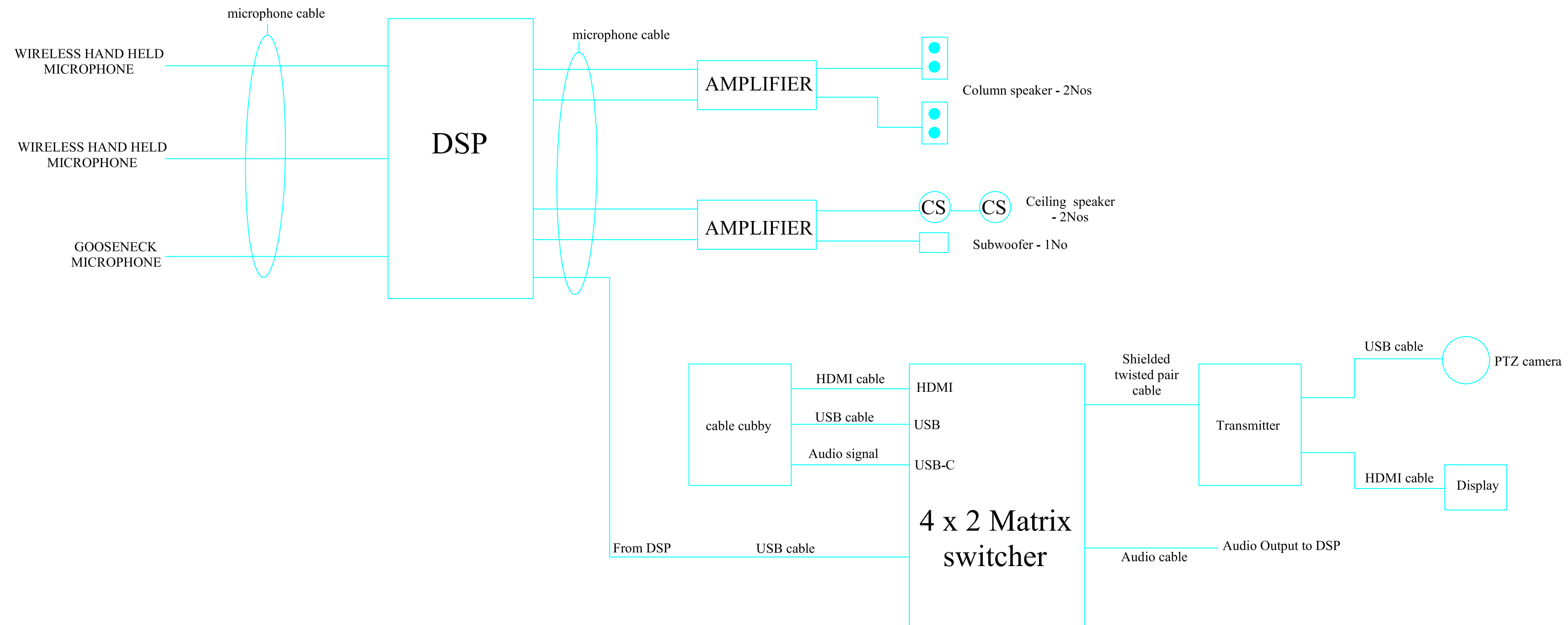
DRAWING TITLE : ELECTRICAL DRAWING  
**ELV LAYOUT( DATA & TELEPHONE , CCTV AND ACCESS CONTROL LAYOUT)**

DWG NO :  
**HITES/IDD/IAV/BSL-2/2022-23/ELV-01**

STATUS : FOR ESTIMATE PURPOSE      SCALE : NTS



## AUDIO VIDEO SYSTEM



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**NOTE / LEGEND**

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- DO NOT SCALE THE DRAWING
- ALL LEVELS ARE IN M
- ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

NAME OF CLIENT/ OWNER  
 INSTITUTE OF ADVANCED VIROLOGY  
 LIFE SCIENCE PARK  
 THONNAKKAL, TRIVANDRUM

A & E DESIGN & PMC

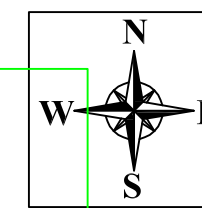
**HITES**  
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PROJECT TITLE :  
 EST. OF BSL-II LAB FOR INSTITUTE OF  
 ADVANCED VIROLOGY, THONNAKKAL.

DRAWING TITLE : ELECTRICAL DRAWING  
 ELV RISER LAYOUT  
 AUDIO VIDEO SYSTEM

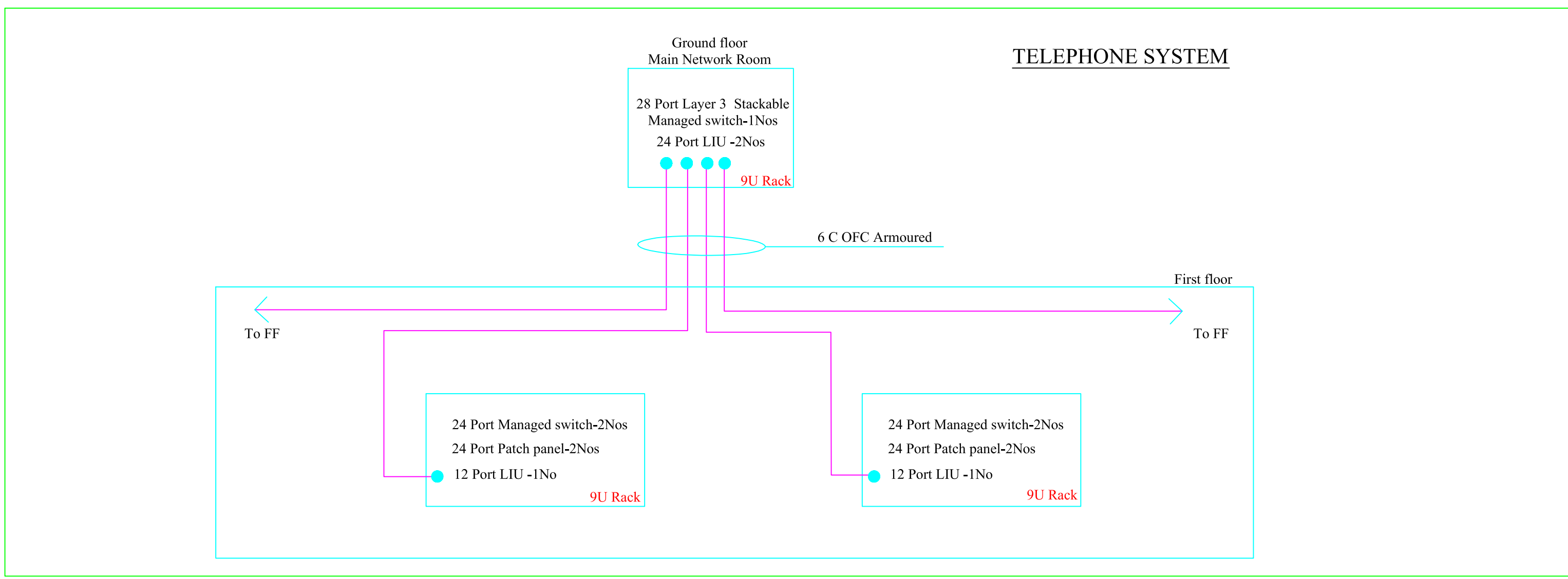
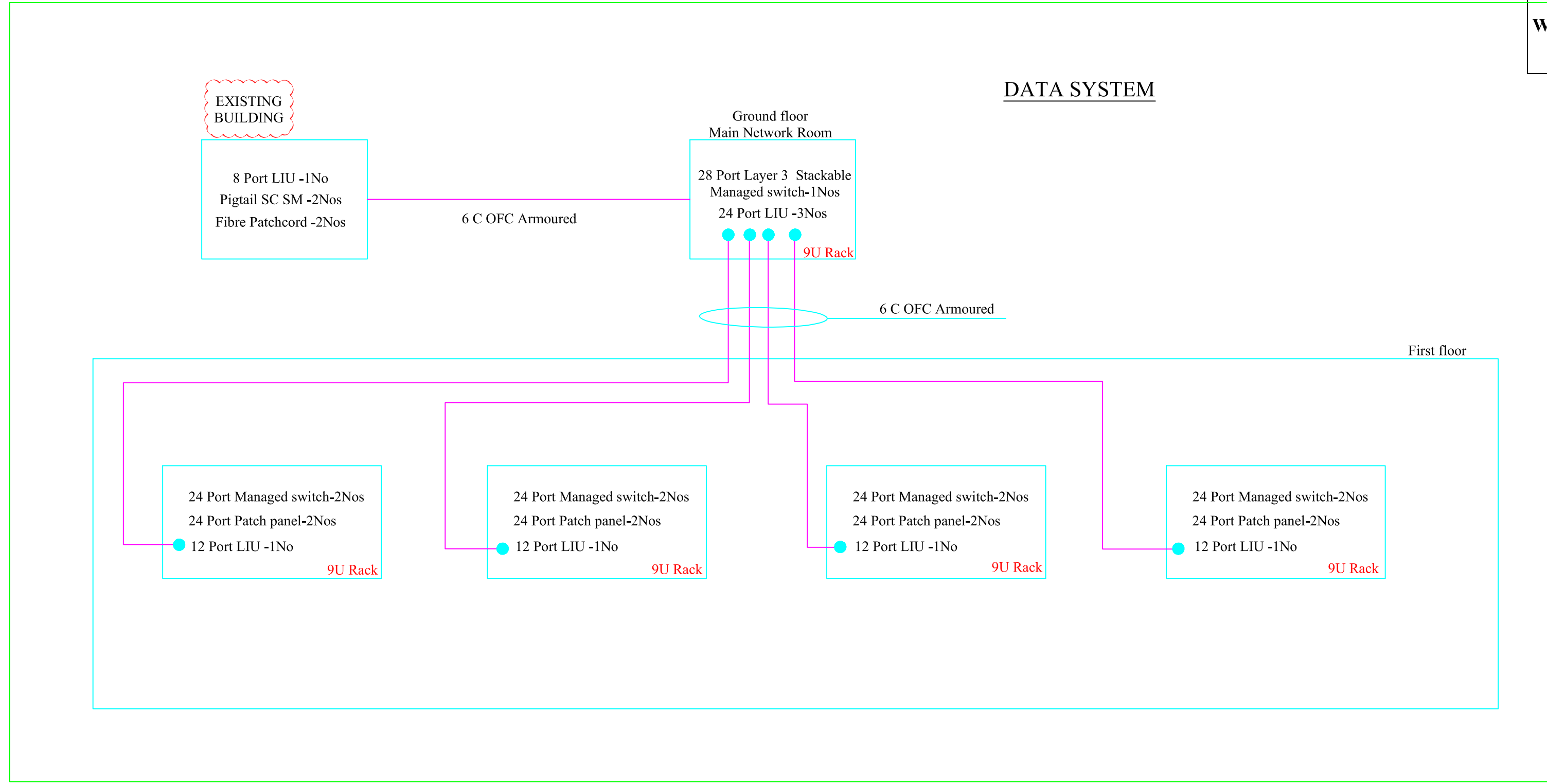
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STATUS : FOR ESTIMATE PURPOSE      SCALE : NTS



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PROJECT TITLE :

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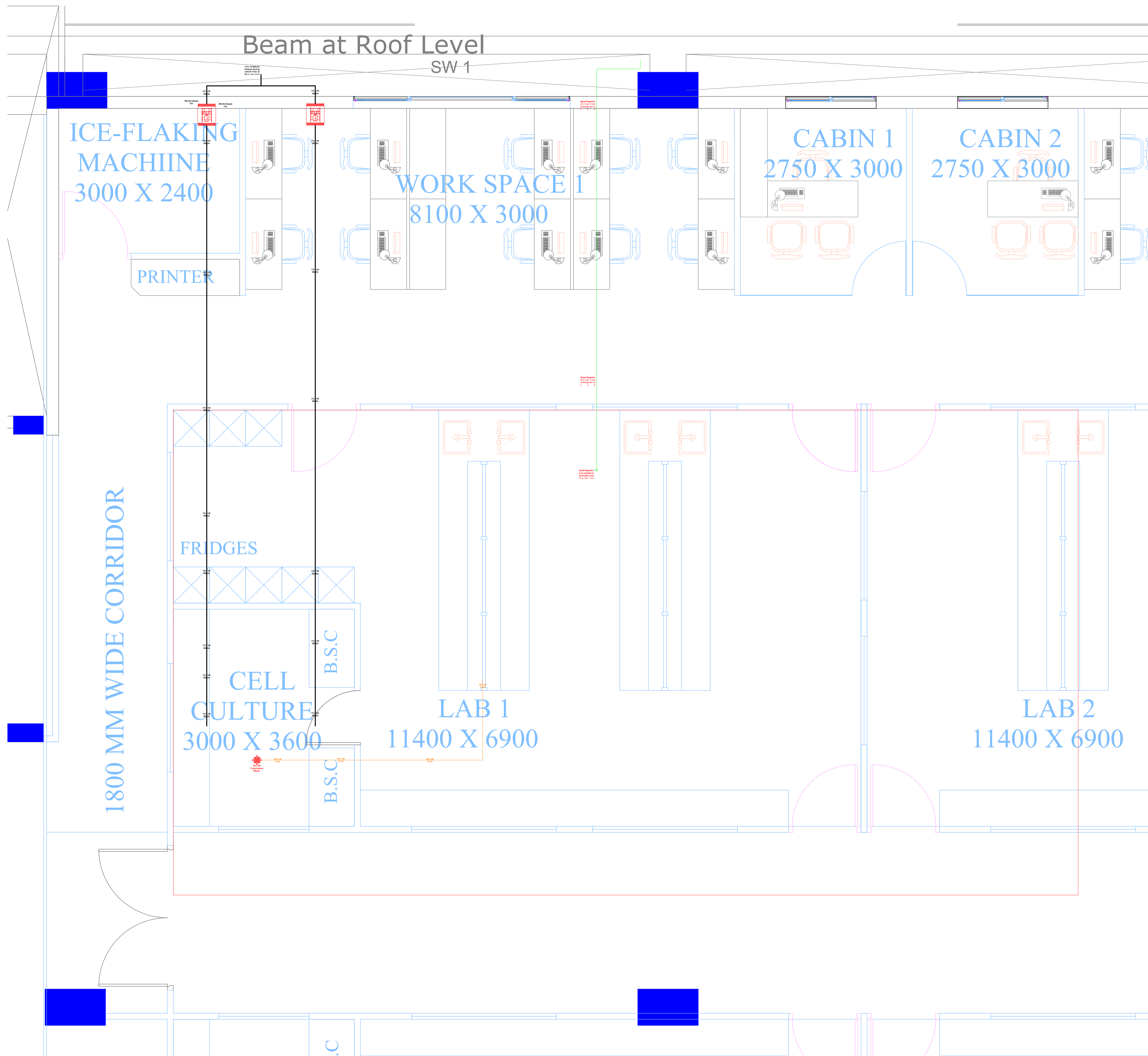
DRAWING TITLE : ELECTRICAL DRAWING

ELV RISER LAYOUT DATA AND  
 TELEPHONE SYSTEM

DWG NO :

HITES/IDD/IAV/BSL-2/2022-23/ELV-02

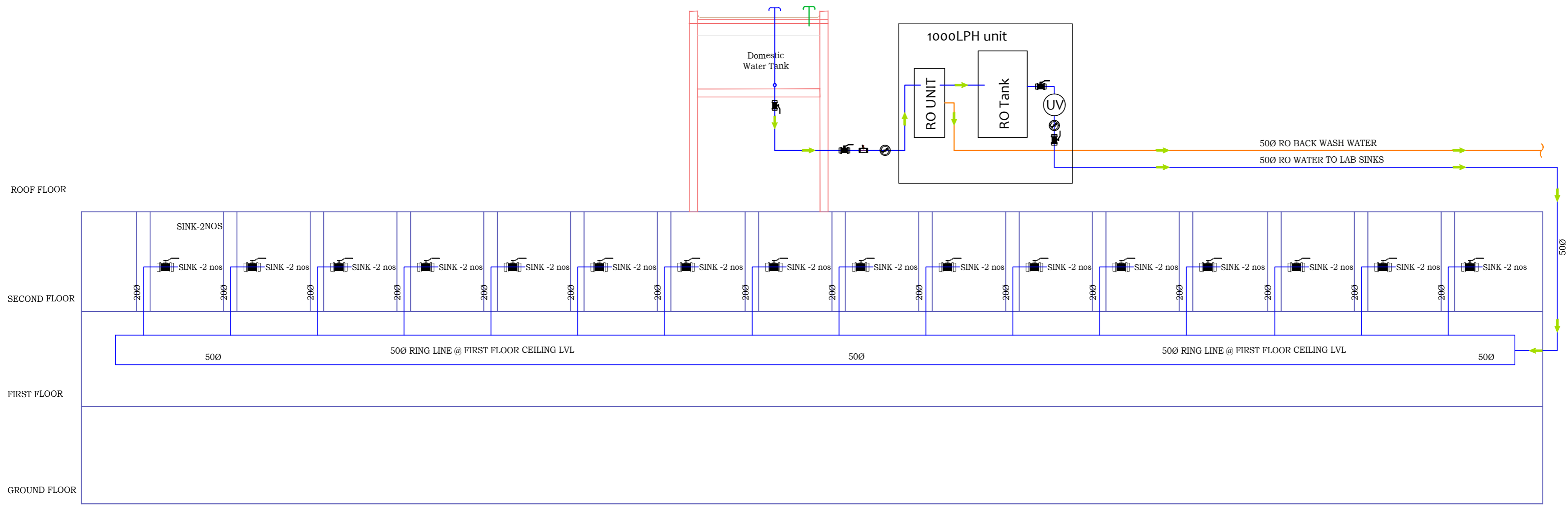
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**NOTE / LEGEND**



**REVISIONS**

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SUB CONSULTANT :



#1, ADITHYA, KOWDIAR  
TRIVANDRUM 695 003  
PHONE: 2437388, 2437589(F)

PROJECT TITLE :

**INSTITUTE OF ADVANCED VIROLOGY  
BIO SAFETY LEVEL-2 LAB**

DRAWING TITLE : PLUMBING DRAWING

SCHEMATIC LAYOUT AND SECTION LAYOUT  
SECOND FLOOR - BIO TECH LAB 1

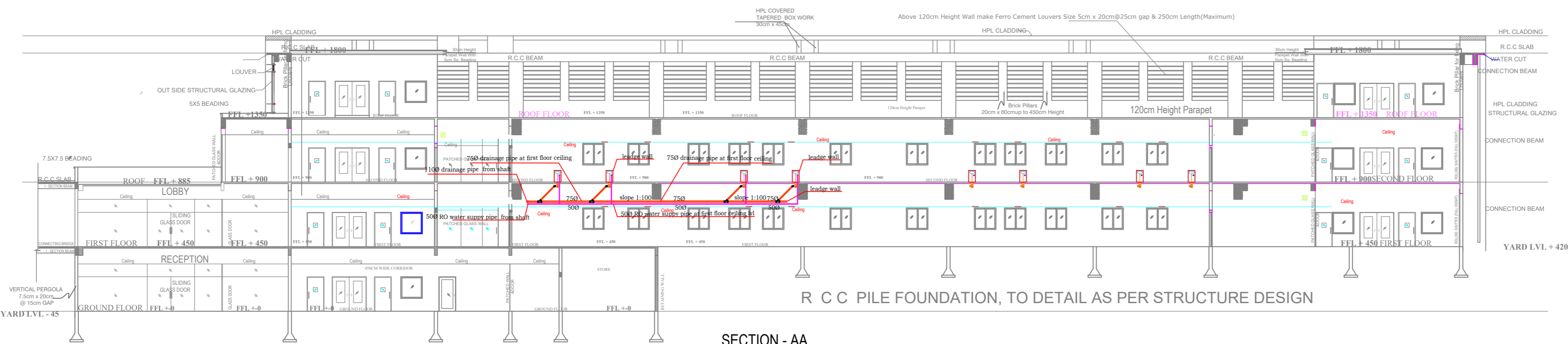
DWG NO :

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STATUS : TENDER DRAWING

SCALE : 1:30 IN A3

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DESIGNED BY	BIBIN T.S	
CHECKED BY	GIREESH	
APPROVED BY	AVP (ID)	



**R C C PILE FOUNDATION, TO DETAIL AS PER STRUCTURE DESIGN**

**SECTION - AA  
(BIO TECH LAB BLOCK)**

**R C C PILE FOUNDATION, TO DETAIL AS PER STRUCTURE DESIGN**



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**NOTE / LEGEND**

LEGEND:-	
	LABORATORY SINK
	LEDGE WALL
	MULTI TRAP
	CLEAN OUT
	WASTE WATER
	WATER SUPPLY PIPE

**REVISIONS**

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SUB CONSULTANT :



**SUMANAM**  
 Engineering Services Consultant  
 #1, ADITHYA, KOWDIAR  
 TRIVANDRUM 695 003  
 PHONE: 2437388, 2437589(F)

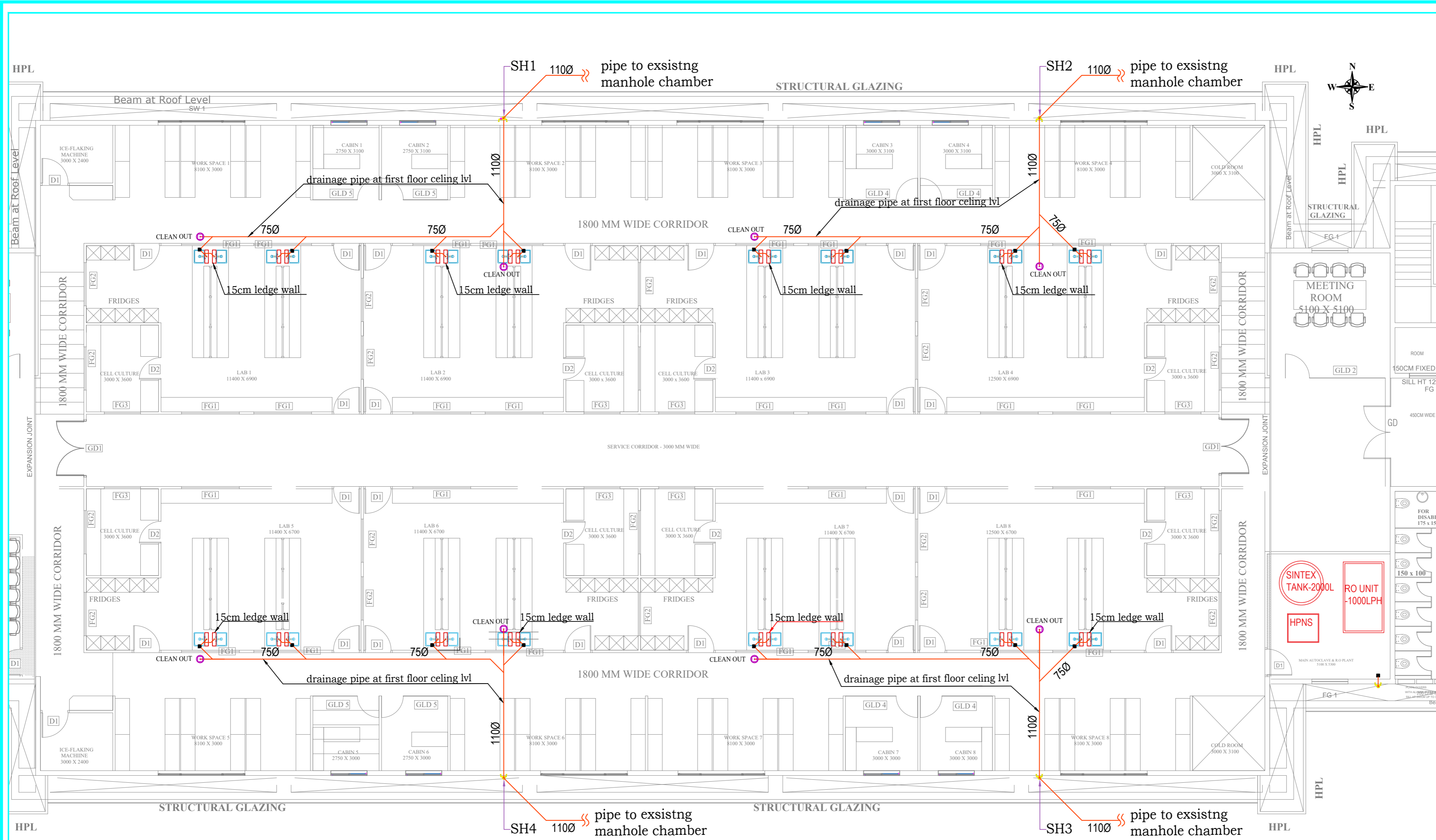
PROJECT TITLE :  
**INSTITUTE OF ADVANCED VIROLOGY**  
**BIO SAFETY LEVEL-2 LAB**

DRAWING TITLE : PLUMBING DRAWING

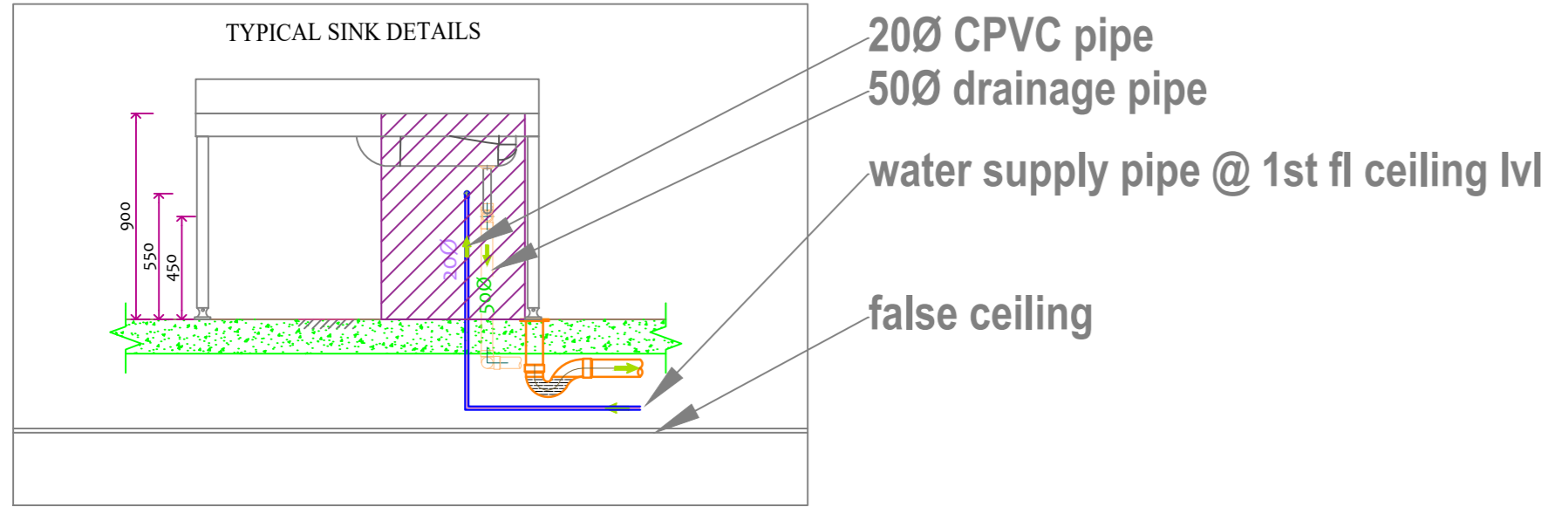
DRAINAGE LAYOUT  
 SECOND FLOOR - BIO TECH LAB 1

DWG NO :  
**HITES/IDD/IAV/BSL-2/2022-2023/P-001**

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**2 nd FLOOR PLAN DETAILS - BSL 2 LAB**



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**NOTE / LEGEND**

LEGEND:-	
	LABORATORY SINK
	BALL VALVE
	ANGLE VALVE
	LEDGE WALL
	MULTI TRAP
	CLEAN OUT
	WASTE WATER
	WATER SUPPLY PIPE

**REVISIONS**

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PROJECT TITLE:  
**INSTITUTE OF ADVANCED VIROLOGY  
 BIO SAFETY LEVEL-2 LAB**

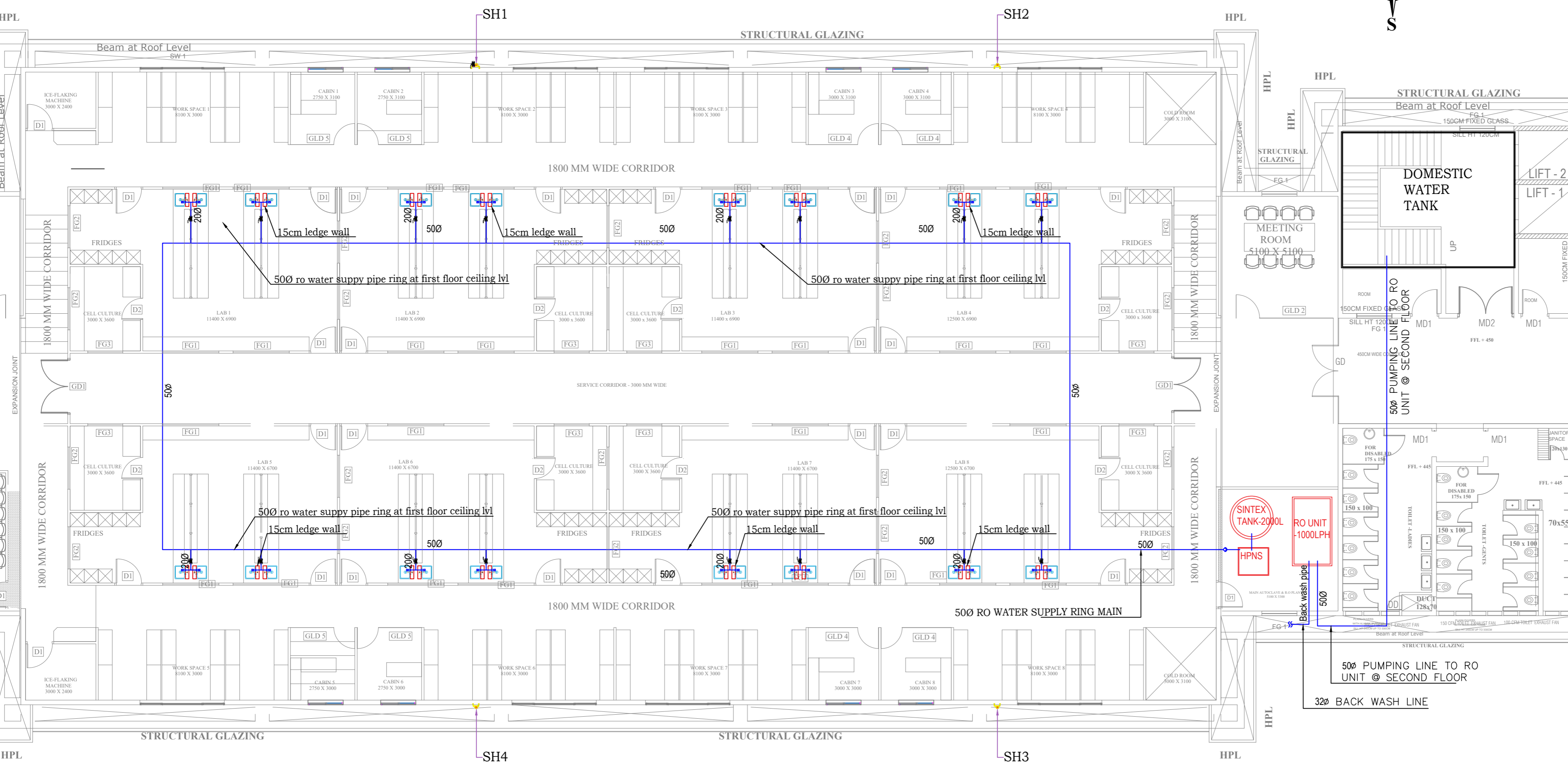
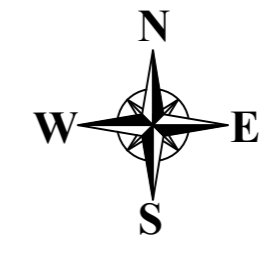
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WATER SUPPLY LAYOUT  
 SECOND FLOOR - BIO TECH LAB 1

DWG NO :  
**HITES/IDD/IAV/BSL-2/2022-2023/P-002**

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**2 nd FLOOR PLAN DETAILS - BSL 2 LAB**

