

**All India Institute of Medical Sciences
Rishikesh-249203**



विश्वारोग्य हि धर्मो नः

**Supply, installation testing & commissioning of additional 2x10kl Liquid Medical Oxygen (LMO) Tank
& allied work at AIIMS Rishikesh**

Ref. No.	:	04/SE/Civil/2023-24
Publishing Date	:	24/04/2023 on 12:00 PM
Bid Submission Start Date	:	24/04/2023 on 12:30PM
Pre bid Meeting Date	:	08/05/2023 on 3:00PM
Last Date of Bid Submission	:	22/05/2023 up to 3:00 PM
Bid Opening	:	23/05/2023 up to 3:00 PM

INDEX

Name of Work: **Supply, installation testing & commissioning of additional 2x10kl Liquid Medical Oxygen (LMO) Tank & allied work at AIIMS Rishikesh**

Serial No.	Contents	Page No.	Remarks
1.	Cover Page	1	
2.	Index	2	
	<u>PART - A</u>		
3.	Notice inviting tender	3	
4.	Information and instructions for Contractors	4 to 5	
5.	Notice inviting tender (CPWD - 6)	6 to 7	
6.	Integrity Pact	08 to 15	
7.	Tender and contract (Civil)	16 to 17	
8.	Schedule "A" to "F" (Civil)	18 to 23	
	<u>PART - B</u>		
9.	Particular specification and Special conditions (Civil)	24 to 41	
10.	Detailed Drawings	42-44	
11.	List of approved make	45	
12.	Schedule of Quantities	46-48	

 Certified that this bid document contains pages 1 to 48 (One to Forty-Eight page).

Executive Engineer
AIIMS, Rishikesh

Tender document may be downloaded from CPPP site <https://eprocure.gov.in>.

NIT may be downloaded from institute's website www.aiimsrishikesh.edu.in

AIIMS, Rishikesh**NOTICE INVITING TENDER**

The Executive Engineer, AIIMS Rishikesh on behalf of The Executive Director, AIIMS Rishikesh invites Item rate e-tenders from specialized agency having similar experience of following work:-

NIT No. : **04/SE/Civil/2023-24**

Name of Work: **Supply, installation testing & commissioning of additional 2x10kl Liquid Medical Oxygen (LMO) Tank & allied work at AIIMS Rishikesh**

Estimated Cost: **Rs.50,00,000.00** Earnest money: **Rs. 100000.00 in form of Treasury Challan /Demand draft/Pay order or Banker's Cheque/ Deposit at call Receipt/FDR/Bank guarantee of any scheduled bank against EMD,**

Period of completion: **03 Months**

Pre bid Meeting Date & Venue: 08/05/2023 on 3:00PM & SE office, AIIMS Rishikesh.

Last date & time of submission of bids: 22/05/2023 up to 3:00 PM

The tender forms and other details can be seen and downloaded from the website www.aiimsrishikesh.edu.in or CPPP site <https://eprocure.gov.in>.

INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e-TENDERING
FORMING PART OF NIT AND TO BE POSTED ON WEBSITE

The Executive Engineer, AIIMS Rishikesh on behalf of The Executive Director, AIIMS Rishikesh invites Item rate e-tenders from specialized agency having similar experience of following work

Name of work & Location	Estimated cost put to bid	Earnest Money	Period of Completion	Pre Bid meeting date & venue	Last date & time of submission of bid	Time & date of opening of bid
<u>Supply, installation testing & commissioning of additional 2x10kl Liquid Medical Oxygen (LMO) Tank & allied work at AIIMS Rishikesh</u>	Rs.50,00,000.00	Rs.1,00,000.00	03 Months	08/05/2023 on 3:00PM & SE office, AIIMS Rishikesh.	22-05-2023 at 3:00 PM	23-05-2023 at 3:00 PM

1. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website www.aiimsrishikesh.edu.in or CPPP site <https://eprocure.gov.in>.
4. Those contractors not registered on the website mentioned above, are requested to get registered beforehand.
5. The intending bidder must have valid class-III digital signature to submit the bid.
6. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
7. Contractor can upload documents in the form of PDF format only.
8. The contractor should quote the rate of item including GST as per statutory rules.
9. EMD shall submit in hard form in office of Executive Engineer(Civil) before last date & time of bid.
10. Those who fails to submit the EMD within stipulated date & time, they shall be treated as disqualified from the BID.

11. (i) **The bidder shall pay the respective amount of Bid Security (EMD) as mentioned in table by Demand Draft FD/TD/CD in favour of The Executive Director, AIIMS, Rishikesh drawn on any Nationalized Bank/ Scheduled Bank and payable at Rishikesh and must be valid for (6) six months.** Bids received without Earnest Money deposit (EMD) shall stand rejected and thus shall not be considered for evaluation etc at any stage. The original EMD will be submitted alongwith bid documents.
- (ii) Earnest Money deposited with AIIMS, Rishikesh in connection with any other tender enquiry even if for same/similar material / Stores by the tenderer will not be considered against this tender.
- (iii) The EMD will be forfeited if the bidder withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender or if it comes to the notice that the information/ documents furnished in its tender is incorrect or false.
12. The bid security (EMD) without interest shall be returned to the unsuccessful bidders after finalization of contract with successful bidder.
13. The successful bidders has to execute a contract on Indian non judicial stamp paper of Rs.100/- (Rupees one hundred only) within fifteen (15) days from the date of award of this tender in his favour and also required to furnish the 3% against performance guarantee of contract value in the form of FD from any Nationalized/Schedule bank duly pledged in favour of AIIMS, Rishikesh & payable at Rishikesh only. If the successful bidder fails to furnish the full Performance guarantee within 15 (fifteen) days after the issue of Letter of Acceptance of Work, action will be taken as per bid declaration form, unless time extension has been granted by AIIMS, Rishikesh.
14. The bid shall be valid and open for acceptance by the competent authority of AIIMS Rishikesh for a period of 90 (ninety) days from the date of opening of the Financial bid and no request for any variation in quoted rates and / withdrawal of tender on any ground by bidders shall be entertained. If any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, **Further the bidders shall not be allowed to participate in the re-bidding process of the work & action shall be taken as per undertaking furnished.**
15. **List of Documents to be scanned and uploaded in CPP portal at AIIMS Rishikesh within the period of bid submission, failing which the bid of the tenderer shall be rejected:**
- I.Treasury Challan /Demand draft/Pay order or Banker's Cheque/ Deposit at call Receipt/FDR/Bank guarantee of any scheduled bank against EMD**
- II. (Turnover, Bank solvency, Profit & Loss statement)**
- III.Certificate of Registration for GST and acknowledgement of up to date filed return.**
- IV. Certificate of work experience issued by the Government department/PSU/Large Pvt. Hospitals. (As specified in Clause 1.2.1 of CPWD-6)**
16. **Due to Scarcity of funds payments may get delayed. No interest shall be paid to contractor due to delay in payment. Contractor shall not claim anything extra because of delayed payment.**

CPWD-6

**Govt. of India
AIIMS, Rishikesh
Notice Inviting e-Tender**

1. The Executive Engineer, AIIMS Rishikesh on behalf of The Executive Director, AIIMS Rishikesh invites Item rate e-tenders from specialized agency having similar experience for the work “**Supply, installation testing & commissioning of additional 2x10kl Liquid Medical Oxygen (LMO) Tank & allied work at AIIMS Rishikesh**”
 - 1.1 The work is estimated to Cost **Rs 50,00,000.00**, this estimate, however, is given merely as a rough guide.
 - 1.2 Intending tenderer 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: -

Criteria of eligibility for submission of bid documents

 - 1.2.1 **Criteria of eligibility**
Experience: The Contractor should have experience of successfully completed works during last seven years ending on previous day of last day of submission of tender in **Government department/PSU/ Autonomous of Govt. of India, Large Pvt. Hospitals** in last **7 years** ending last day of the month previous to the one in which the tenders are invited for the following value of work:
 Three similar works each of value not less than **Rs. 20,00,000.00** or two similar work each of value not less than **Rs.30,00,000.00** or one similar work of value not less than **Rs.40,00,000.00**
Similar works means SITC of LMO tank & allied work.

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 last date of receipt of tenders.
 - 1.2.2 **Certificate of Registration for GST and acknowledgement of up to date filed return.**
 - 1.2.3 **Annual financial turnover should be atleast 25 Lakhs (i.e. 50% of the estimated cost put to tender) during the immediate last 3 consecutive financial year.**
 - 1.2.4 **The Bidder should not have incurred any loss (Profit after tax should be positive) in more than 2 years during available last 5 consecutive balance sheet, duly audited and certified by the chartered accountant.**
 - 1.2.5 **Treasury Challan /Demand draft/Pay order or Banker’s Cheque/ Deposit at call Receipt/FDR/Bank guarantee of any scheduled bank against EMD**
 - 1.2.6 **Solvency certificate of 20 lakhs or more (i.e 40% of estimated cost put to tender)**
 - 1.2.7 **Copy of ESIC & PFO registration of the Govt. of India/State labour Department.**
2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 8 which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **03 Months** from the date of start as defined in schedule ‘F’ or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. The site for the work is available. The architectural and structural drawings shall be made available as per requirement of the same as per approved programme of completion submitted by the contractor after award of the work.
- 5 The tender document consisting of plans if any, specifications, the schedule of

quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions Of Contract Form can be seen from website www.aiimsrishikesh.edu.in or CPPP site <https://eprocure.gov.in>.

The bid submitted shall be opened on 23-05-2023 at 3:00 PM

6. The contractor whose bid is accepted will be required to furnish performance guarantee of 3 (Three Percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10000/-) or Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any Scheduled Bank (in case guarantee amount is less than Rs. 1, 00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F' including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. **The Earnest Money deposited along with tender shall be returned after receiving the aforesaid performance guarantee.**
7. Intending Bidders 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 bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a 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.
8. The competent authority does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
9. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
10. The competent authority reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
11. The contractor shall not be permitted to tender for works in AIIMS Rishikesh in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of Executive Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in AIIMS Rishikesh. Any breach of this condition by the contractor would render him liable to reject his Bid submitted by him.
12. This notice inviting Bid shall form a part of the contract document. The successful bidders /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: -
 - a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as uploaded at the time of invitation of tender.
 - b) Standard C.P.W.D. Form 8 or General condition of contract for C.P.W.D Maintenance work 2020 with up to date correction slips.

INTEGRITY PACT

To,

Sub: **04/SE/Civil/2023-24 Supply, installation testing & commissioning of additional 2x10kl Liquid Medical Oxygen (LMO) Tank & allied work at AIIMS Rishikesh**

Dear Sir,

It is here by declared that AIIMS Rishikesh is 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 AIIMS Rishikesh.

Yours faithfully,

Executive Engineer
AIIMS Rishikesh

To,

The Executive Engineer,
AIIMS Rishikesh,

Sub: Submission of Tender for the work of **Supply, installation testing & commissioning of additional 2x10kl Liquid Medical Oxygen (LMO) Tank & allied work at AIIMS Rishikesh**

Dear Sir,

I / We acknowledge that AIIMS Rishikesh 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 AIIMS Rishikesh. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 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, AIIMS Rishikesh 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)

To be signed by the bidder and same signatory competent / authorised to sign the relevant contract on behalf of The Executive Director AIIMS Rishikesh.

INTEGRITY AGREEMENT

This Integrity Agreement is made at..... on this.....day of.....20

BETWEEN

AIIMS Rishikesh represented through The Executive Director.....

(Name of Division)

AIIMS Rishikesh....., (Hereinafter referred as the

(Address of Division)

'Principal / Owner', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

(Name and Address of the Individual/firm/Company)

Through..... (hereinafter referred to as the

(Details of duly authorized signatory)

"Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal /Owner has floated the Tender (NIT No.

.....) (hereinafter referred to as **"Tender/Bid"**) and intends to award, under laid down organizational procedure, contract for

(Name of work)

Hereinafter referred to as the **"Contract"**.

AND WHEREAS the Principal / Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as **"Integrity Pact"** or **"Pact"**), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

Article 1: Commitment of the Principal / Owner

- 1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - (c) The Principal / Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

- 2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC) / Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal / Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder (s) / Contractor (s)

- 1) It is required that each Bidder / Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.

- 2) The Bidder(s) / Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - a) The Bidder(s) / Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal / Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.

 - b) The Bidder(s) / Contractor (s) will not enter with other Bidder (s) into any undisclosed agreement or understanding, 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 cartelize in the bidding process.

 - c) The Bidder(s) / Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s) / Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the

Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- d) The Bidder(s)/ Contractor(s) of foreign origin shall disclose the names and addresses of agents / representatives in India, if any. Similarly, Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
- e) The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose (with each tender as per performa enclosed) any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract
- 3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 4) The Bidder(s) / Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake /forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
- 5) The Bidder(s) / Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his / her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal / Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder / Contractor accepts and undertakes to respect and uphold the Principal / Owner's absolute right:

- 1) If the Bidder (s) / Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal / Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner.**
- 2) **Forfeiture of EMD/Performance Guarantee / Security Deposit:**

If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder / Contractor.

3) **Criminal Liability:**

If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of Indian Penal code (IPC)/Prevention of Corruption Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

- 1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- 2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holding listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
- 3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

- 1) The Bidder(s) / Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder / Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub-contractors/sub-vendors.
- 2) The Principal / Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- 3) The Principal / Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6- Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor / Vendor 12 months 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 the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, Executive Director, AIIMS Rishikesh.

Article 7- Other Provisions

- 1) This Pact is subject to Indian Law, place of performance and jurisdiction is the **Head quarters of the Division** of the Principal / Owner, who has floated the Tender.
- 2) Changes and supplements need to be made in writing. Side agreements have not been made.
- 3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- 4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this **Integrity Agreement/ Pact or interpretation** there of shall not be subject to arbitration.

Article 8- LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender / Contract documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

(For and on behalf of Principal/Owner)

(For and on behalf of Bidder/Contractor)

WITNESSES:

1. (Signature, name and address)

2. (Signature, name and address)

Place: -

Dated: -

निविदा TENDER

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

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

We agree to keep the tender open for Ninety (90) days from the due date of opening of financial bid and not to make any modification in its terms and conditions.

A sum of ₹ **1,00,000.00** is hereby forwarded in Multiple Treasury Challan or Demand Draft or Pay order or Banker's Cheque or Deposit at Call Receipt / Fixed Deposit receipts of a scheduled bank / demand draft of a scheduled bank/bank guarantee issued by a scheduled bank as earnest money. If I/We fail to furnish the prescribed performance guarantee within prescribed period, I/we agree that the said Director of AIIMS Rishikesh or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that Director of AIIMS Rishikesh or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely. The said Performance Guarantee shall be 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 both earnest money and 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 AIIMS Rishikesh, then I/We shall be debarred for tendering in AIIMS Rishikesh in future forever. Also, if such a violation comes to the notice of Department before date of start of work, The Engineer – in – Charge shall be free to forfeit the entire amount of Earnest Money Deposit / Performance Guarantee.

मैं/हम एतद्वारा घोषणा करते हैं कि मैं/हम निविदा कागजातों, नक्शों और कार्य से संबंधित अन्य अभिलेखों को गुप्त/गोपनीय कागजात के रूप में रखेंगे और उनसे प्राप्त/ली गई जानकारी किसी अन्य को, जिन्हें मैं/हम सूचित करने के लिए प्राधिकृत हो, से भिन्न किसी को, नहीं बताएंगे या जानकारी को किसी ऐसे रूप में प्रयोग नहीं करेंगे जो राज्य की सुरक्षा के लिए प्रतिकूल हो।

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 authorised to communicate the same or use the information in any manner prejudicial to the safety of the State.

तारीख Dated #.....

टेकेदार के हस्ताक्षर Signature of Contractor#
डाक का पता Postal Address#

साक्षी Witness : #

पता Address: #

उपजीविका Occupation: #

To be filled in by the contractor/witness as applicable

ACCEPTANCE

The above tender (as modified vide letters mentioned hereunder) is accepted by me for and on behalf of The Executive Director, AIIMS Rishikesh for a sum of ₹. _____

(Rupees _____)

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

- a)
- b)
- c)

For & on behalf of The Executive Director, AIIMS Rishikesh

Signature.....

तारीख Dated

Designation.....

अनुसूचियां SCHEDULES
[FOR MAJOR (CIVIL/MECHANICAL) COMPONENT]

अनुसूची 'क' **SCHEDULE 'A'**
मात्राओं की अनुसूची (संलग्न)

Schedule of quantities (Enclosed)

Page No. - 46-48

अनुसूची 'ख' **SCHEDULE 'B'**
टेकेदार की निर्गत की जाने वाली सामग्रियों की अनुसूची
Schedule of materials to be issued to the contractor.

क्रम. सं. S.No.	मद विवरण Description of item	मात्रा Quantity	जिस दर पर सामग्रियां टेकेदार को प्रभारित होगी वह दर अंकों एवं षब्दों में Rates in figures & words at which the material will be charged to the contractor	निर्गत स्थान Place of Issue
1	2	3	4	5
<div style="border: 1px solid black; width: 100%; height: 100%; display: flex; justify-content: center; align-items: center; text-align: center;"> X </div>				

अनुसूची 'ग' **SCHEDULE 'C'**

टेकेदार को भाड़े पर दिए जाने वाले औजार एवं संयंत्र

Tools and plants to be hired to the contractor

क्रम सं. Sl. No.	विवरण Description	भाड़ा प्रभार प्रतिदिन Hire charges per day	निर्गत स्थान Place of Issue
1	2	3	4
<div style="border: 1px solid black; width: 100%; height: 100%; display: flex; justify-content: center; align-items: center;"> X NIL </div>			

अनुसूची 'घ' **SCHEDULE 'D'**

कार्य के लिए विशेष अपेक्षाएं/दस्तावेज, यदि कोई हों, की अतिरिक्त अनुसूची

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

-----Nil-----

अनुसूची (ड) SCHEDULE 'E'

टेके की सामान्य शर्तों का संदर्भ	General conditions of contract for CPWD works 2020 (construction work) as amended upto date.
1. Reference to General Conditions of contract	
Name of work <u>Supply, installation testing & commissioning of additional 2x10kl Liquid Medical Oxygen (LMO) Tank & allied work at AIIMS Rishikesh</u>	
कार्य की अनुमानित लागत Estimated cost of work	: ₹50,00,000.00
(i) धरोहर राशि Earnest money	: Rs. 1,00,000.00
(ii) निष्पादन गारंटी Performance guarantee :	3% of Tendered value. निविदित मूल्य का 03 प्रतिशत
(iii) प्रतिभूति निक्षेप: Security Deposit:	2.5% of tendered value

अनुसूची 'च' SCHEDULE 'F'

सामान्य नियम एवं दिशानिर्देश:	
General Rules & Directions:	
निविदा आमंत्रण करने वाला प्राधिकारी	
Officer inviting tender -	Executive Engineer , AIIMS Rishikesh
कार्य की मर्दों की मात्रा के लिए अधिकतम प्रतिशत जिससे अधिक निष्पादित मर्दों के लिए दरों का निर्धारण खण्ड 12.2 और 12.3 के निम्नानुसार अनुसार होगा	
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3.	see below
Definitions:	
2(v) भारसाधक इंजीनियर	
Engineer-in-Charge	Executive Engineer, AIIMS Rishikesh
2(viii) स्वीकार कर्ता प्राधिकारी	
Accepting Authority	Superintending Engineer, AIIMS Rishikesh
2(x) अतिरिक्त और लाभों को पूरा करने के लिए श्रम एवं सामग्रियों की लागत पर प्रतिशतता	
Percentage on cost of materials and labour to cover all overheads and profits.	15% (Fifteen per cent)
2(xi) दरों की मानक अनुसूची	
Standard schedule of Rates: -	Delhi Schedule of rate 2021(Civil)/Market
Rate	
	Issued upto date of receipt of tender.
2(xii) विभाग	
Department	AIIMS Rishikesh
9(ii) मानक के.लो.नि.वि. टेका फार्म	
work	CPWD form8 GCC 2020Construction
Standard CPWD contract Form	with up to date correction slip.

खण्ड Clause 1

:पद्ध स्वीकृति पत्र जारी होने की तारीख से निष्पादन गारंटी के प्रस्तुतीकरण के लिए अनुमत समय
Time allowed for submission of performance guarantee from the date of issue of letter of acceptance : 10 days

:पद्ध (उपर्युक्त प) में दी गई अवधि के पश्चात् अधिकतम अनुमेय एक्सटेंशन
Maximum allowable extension with late fee @ 0.10% per day of performance guarantee amount beyond the period as provided in (i) above : 1 to 07 days

खण्ड Clause 2

खण्ड 2 के तहत प्रतिकार निश्चित करने वाला प्राधिकारी
Authority for fixing compensation under clause 2

Superintending Engineer, AIIMS Rishikesh

खण्ड Clause 2A

क्या खण्ड 2 क लागू होगा
Whether clause 2A shall be applicable

No

खण्ड Clause 5

कार्य आरंभ की तारीख की गणना के लिए स्वीकृति पत्र के जारी होने की तारीख से दिनों की संख्या
No. of days from the date of issue of letter of acceptance for reckoning date of start

10 days.

लक्ष्य नीचे दी गई सारणी के अनुसार

Milestone(s): -

NA

कार्य निष्पादित करने के लिए अनुमत समय
Time allowed for execution of work
Authority to decide
(i) Extension of Time

03 (Three) Months

Superintending Engineer, AIIMS Rishikesh

(ii) Rescheduling of mile stones

Superintending Engineer, AIIMS Rishikesh.

(iii) Shifting of date of start in case of delay in handing over of site

Executive Engineer , AIIMS Rishikesh

खण्ड Clause 7

अंतरिम भुगतान के लिए पात्र होने के लिए अंतिम ऐसे भुगतान के बाद कुल भुगतान एकत्रित सामग्रियों के अग्रिमों के समायोजन सहित किया जाने वाला कुल कार्य
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

NA

खण्ड 10 d Clause10A

कार्यस्थल प्रयोगशाला में टेकेदार द्वारा उपलब्ध कराये जाने परीक्षण उपकरण की सूची
List of testing equipment to be provided by the contractor at site lab.

N.A.

खण्ड Clause10B(ii)

क्या खण्ड 10 ख ;पद्ध लागू होगा
Whether clause 10B (ii) shall be applicable

NA

खण्ड Clause10C

Component of labour expressed as Percent of value of work

NA

खण्ड Clause 10CC - NOT APPLICABLE.

<p>खण्ड 10 गग उन सविदाओं पर लागू होगा जिसमें कार्य समापन की अवधि, अगले कालम में दर्शाई गई अवधि से अधिक अनुबंधित है।</p> <p>Clause 10CC to be applicable in case of DELETE with stipulated period of compensation exceeding the period shown in next column : Months</p>
--

खण्ड Clause 10d**Yes****खण्ड Clause 11**

कार्य निष्पादन के लिए अनुपालन
Specifications to be followed for execution of work

**For Civil : CPWD specification 2019, Volume-I & II
with correction slips upto date of receipt of tender.**

खण्ड Clause 12**Applicable**

12.2 & 12.3

विचलन सीमा जिसके परे खण्ड 12.2 तथा 12.3 भवन निर्माण कार्य के लिए लागू होंगे
Deviation limit beyond which clauses 12.2 & 12.3 shall apply for building work (Other than foundation)

50%

12.5

(i) Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work (except earth work)

50%

(ii) Deviation limit for items in earth work subhead of DSR or related items

100%**खण्ड Clause 16**

घटी हुई दरें निर्धारित करने की लिए सक्षम प्राधिकारी
Competent Authority for deciding reduced rates

Superintending Engineer, AIIMS Rishikesh

खण्ड Clause 18

कार्यस्थल पर ठेकेदार द्वारा लगाये जाने वाली अनिवार्य मशीनरी औजार एवं सयंत्रों की सूची :-
List of mandatory machines, tools and plants to be deployed by the contractor at site.

N.A.**खण्ड Clause 31**

Whether clause 31 shall be applicable

Yes**खण्ड Clause 32****Not Applicable****खण्ड Clause 38**

I) क) सीमेन्ट और बिटुमन की अनुमानमूल मात्रा निर्धारित करने के लिए अनुसूची / विवरण

केलोनवि द्वारा मुद्रित दिल्ली दर अनुसूची 2021 के आधार पर

I) (a) Schedule/statement for determining theoretical quantity of cement & bitumen

on the basis of Delhi Schedule of Rates 2021 printed by C.P.W.D. with correctionslips issued up to date of receipt of tender.

II) अनुमानमूलक मात्राओं में अनुमत विचलन
Variations permissible on theoretical quantities.

Yes

II) अनुमानमूलक मात्राओं में अनुमत विचलन
Variations permissible on theoretical quantities.

Yes

d½	सीमेन्ट जिन कार्यों के लिए निविदा में अनुमानित मूल्य रू. 5 लाख से अधिक न हो	
a)	Cement for works with estimated cost put to tender not more than Rs. 5 lakhs	Not Applicable
	जिन कार्यों के लिए निविदा में अनुमानित मूल्य रू. 5 लाख से अधिक हो	2 प्रतिशत जमा/घटा
	for works with estimated cost put to tender more than Rs. 5 lakhs	2 % plus/minus.
ख)	बिटुमन सभी कार्यों के लिए	2.5 प्रतिशत केवल जमा और घटा के पक्ष में शून्य
b)	Bitumen for all works	2.5% plus only & Nil on minus side.
ग)	इस्पात प्रत्येक व्यास, कोट और श्रेणी के लिए पूर्णवर्लन और संरचनात्मक इस्पात काट	2 प्रतिशत जमा/घटा
c)	Steel Reinforcement and structural steel sections for each diameter, section and category.	2% plus/minus
घ)	सभी अन्य सामग्रियां	शून्य
d)	All other materials	Nil.

अनुमत्य विचलन से अधिक की मात्राओं के लिए वसूली दर

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

क्रम सं. SI No.	मद विवरण Description of item	अंको और शब्दों में वह दर जिस पर ठेकेदार से वसूली की जाएगी Rates in figures and words at which recovery shall be made from the Contractor	
		अनुमत्य विचलन से अधिक आधिक्य Excess beyond permissible variation	अनुमत्य विचलन से अधिक उपयोग घटाया Less use beyond the permissible variation
1.	सीमेन्ट Cement	N.A.	Rs. 6210/- Per MT
2.	ईस्पात Steel Reinforcement	N.A.	Rs. 53099/- Per M.T.

FORM OF EARNEST MONEY (BANK GUARANTEE)

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

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

SEALED with the Common Seal of the said Bank this day of 20... .

THE CONDITIONS of this obligation are:

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

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

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

DATE

SIGNATURE OF THE BANK

WITNESS

SEAL

(SIGNATURE, NAME AND ADDRESS)

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

PARTICULAR SPECIFICATIONS
&
SPECIAL CONDITIONS

1. GENERAL

- 1.1 Wherever any reference to any Indian Standard Specifications of BIS occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued there-to or revisions thereof, if any, up to the date of receipt of tenders.
- 1.2 The contractor shall work according to the programme of work as approved by the Engineer-in-charge, for which purpose, the contractor shall submit a programme of the work within 15 days from the stipulated date of start of the work.
- 1.3 The contractor shall take instructions from the Engineer-in-charge for stacking of materials at site. No excavated earth or building materials shall be stacked on areas where the buildings, roads, services or compound walls are to be constructed.
- 1.5 Unless otherwise provided in the Schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing shall be payable to him on this account.
- 1.6 The working drawings appearing at para 8.1(iii) of conditions of contract in the form CPWD-8, shall mean to include both architectural and structural drawings respectively. The structural and architectural drawings shall be properly correlated before executing the work. In case of any difference noticed between architectural and structural drawings, final decision, in writing of the Engineer-in-charge shall be obtained by the contractor before proceeding further.
- 1.7 Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restriction / instructions including issue of identity cards to all persons authorized by him to do work / visit the work site and nothing shall be payable on this account.
- 1.8 The contractor shall make his own arrangements for obtaining electric connections, if required, and make necessary payments directly to the department concerned.
- 1.9 The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor (s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed, so as not to interfere with the operations of other contractors, or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of Engineer-in-Charge. The contractor shall be responsible for any damage due to hindrance caused by him.
- 1.10 All the material related to the work execution shall be approved by Engineer-In-charge.
- 1.11 Any cement slurry added over base surface for bond or for continuation of concreting, for protecting reinforcement bars, its cost shall be deemed to have been included in the respective items, unless specified otherwise and nothing extra shall be payable nor extra cement shall be considered in the cement consumption on this account.
- 1.12 Stacking of materials and excavated earth including its disposal shall be done as per the directions of the Engineer-in-Charge. Double handling of materials or excavated earth if required at any stage shall have to be done by the contractor at his own cost.
- 1.13 No claim for idle establishment & labour, machinery & equipments, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.
- 1.14 Only Stainless Steel screws shall be used unless otherwise specified.

- 1.15 **Work shall be carried out in professional manner with finished product serving the intended purpose with specified strength, durability and aesthetics.**
- 1.16 Work activities shall be executed in well thought out sequences such that consequent activities not adversely affecting previously done work. Nothing extra shall be payable to protect the works already done.
- 1.17 The contractor shall prepare all the needed shop drawings well in advance and get them approved before placing the order and execution of the item.
- 1.18 Contractor shall be able to claim bill only after issuing site clearance certificate from Junior Engineer & Assistant Engineer.
- 1.19 Contractor shall submit all material in store which is to be consumed according to specifications during execution of work. It will be further issued by concerned JE and AE according to daily requirement.
- 1.20 All materials to be used during work shall be got approved from engineer in charge.
- 1.21 All samples of material shall be got approved from engineer in charge before execution of work.
- 1.22 The contractor(s) shall inspect the site of work before tendering and acquaint himself with the site conditions and **no claim on this account** shall be entertained by the department.
- 1.23 The tender shall see the approaches to the site. In case any approach from main road is required at or existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost.
- 1.24 Contractor shall take all precautionary measures to avoid any damage to adjoining property. **All necessary arrangement shall be made at his own cost.** Any damage caused by the contractor to the contractor to existing building/ installation / roads / boundary walls shall be made good by him (the contractor) at his own cost.
- 1.25 The contractor shall take all precautions to avoid accidents by exhibiting necessary caution board day and night, speed limit, red flags, red lights and proving barriers. He shall be responsible for all damages and accidents caused to existing / new work due to negligence on his part. No hindrances shall be caused to traffic, running of hospital services during the execution of the work.
- 1.26 Royalty at the prevailing rates whenever payable shall have to be paid by the contractor on the boulders, metal, shingle, sand and bajri etc. Or any other material collected by him for the work direct to revenue authorities and **the department shall pay nothing extra for the same.**
- 1.27 The contractor shall provide at his own cost suitable weighing, surveying and levelling and measuring arrangements as may be necessary at site for checking. All such equipment shall be got calibrated in advance from laboratory, approved by the Engineer-In-Charge. **Nothing extra shall be payable on this account.**
- 1.28 Contractor shall provide permanent bench mark, flags tops and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the level and location, given in the Architectural and plumbing drawings.
- 1.29 Water tanks, taps, sanitary, water supply and drainage pipes, civil fittings and accessories should confirm to byelaws and municipal body / corporation where CPWD specifications are not available. The contractor should engage licensed plumbers for the work and get the materials (fixture /fittings) tested by municipal Body / Corporation authorities wherever required at his own cost.
- 1.30 The contractor shall give performance test of the entire installations as per the standing specifications before the work is finally accepted and completion certificate is recorded by the Engineer- In -Charge. **Nothing extra whatsoever shall be payable to the contractor for the test.**
- 1.31 Any cement slurry added over base surface for the continuation of concreting for better bond is deemed to have been included in the items and **nothing extra shall be payable on this account, also the cement consumed on this account shall not be considered in theoretical consumption.**

For RCC work, only factory made round type cover block shall be used.

- 1.32 The contractor shall bear all incidental charges for cartage, storage and safe custody of materials bought to site.
- 1.33 The work shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time, by the Engineer-In-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the and satisfy himself that the information available there from is complete and unambiguous.
The discrepancy, if any, shall be brought to the notice of the Engineer-In-Charge before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of the work on the basis of any erroneous and or incomplete information.
- 1.34 Other agencies will also simultaneously execute and install the works of internal electrical installations, sub- station / generating sets, air- conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. Shall be supplied free of cost by the department unless otherwise specifically mentioned) and the contractor shall fix the same at the time of casting of concrete, stone work and brick work, if required, and **nothing extra shall be payable on this account.**
- 1.35 All materials obtained from Govt. stores or otherwise shall be got checked by the Engineer-In-Charge or his any authorized supervisory staff on receipt of the same at site before use.
- 1.36 All material shall only be brought at site as per programme finalized with the Engineer-In-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
- 1.37 The architectural drawings given in the tender other than those indicated in nomenclature of the items are only indicative of the nature of the work and materials / fixtures involved unless otherwise specifically mentioned. However, the work shall be executed in accordance with the drawings duly approved by the Engineer-In –Charge. Architectural drawings are available in the office of Engineer-In-Charge and can be seen.
- 1.38 Normally contractors shall not be allowed to work at night. Work at night shall, however, be allowed if the site conditions / circumstances at night, **no claim on this account shall be entertained. In such situations the contractor shall make available to the department proper means of transport such as vehicle at his own cost.**
- 1.39 Existing drains, cables, pipes, over-head wires, sewer lines and similar services encountered in the course of execution of work shall be protected against the damage by the contractor's own expense. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services. In no case such services should be stopped to the existing buildings.
- 1.40 The contractor shall be responsible for the watch and ward/ guard of the buildings, safety of all fitting and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. **No extra payment shall be made on this account.**
- 1.41 The day to day receipt and issue accounts of different / brands of cement shall be maintained separately in the standard Performa by the Jr. Engineer of work and which shall be duly signed by the contractor or his authorized representative.
- 1.42 The contractor shall be fully responsible for the safe custody of materials brought by him issued to even though the materials are under double lock key system.
- 1.43 The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and clearance of the same before use in the work. Any predelivery of the materials not required for immediate consumption shall not be resorted to. The contractor shall provide at his own cost suitable weighing and measuring arrangements at site for checking the weight / dimensions as may be necessary for execution of work.

- 1.44 No payment shall be made to the contractor for any damage caused by rain, floods, earthquake or any other natural causes whatsoever during execution of work. The contractor at his own cost will make the damages to the work good and no claim on this account shall be entertained.
- 1.45 For construction works which are likely to generate malba / rubbish to the tune of more than a truck load, contractor shall dispose of malba, rubbish & other unserviceable materials and **wastes at his own cost** to the notified specified dumping ground and under no circumstances these shall be stacked / dumped even temporarily, outside the construction premises.
- 1.46 Any damage done by the contractor to any existing work or work being executed by other agencies shall be made good by him at his own cost.
- 1.47 On the account of security consideration, there would be some restrictions, on the working hours, movement of vehicle for transportation of material and location of labour camp. The contractor shall be bound to follow all such restrictions and adjust the programme for execution of work.
- 1.48 The contractor shall also be required to follow the rules & restrictions imposed on working / movement/ stacking of materials by the local competent authority at all times. Nothing extra shall be payable on this account.
- 1.49 In case, there is any discrepancy between English version and corresponding Hindi version, if provided, then the provisions in English version will prevail.
- 1.50 The contractor will have to work as per schedule given by the Engineer-In-Charge.
- 1.51 The contractor shall remove all splashes from doors, windows and floors etc. if the contractor fails to remove the same 10% of gross value of the bills would be kept in deposit from each bill simultaneously.
- 1.52 The contractor submits the authenticated copies of itemized bills of the material which has to be entered in the M.A.S. Register viz steel, Cement, Bitumen, Paint water proofing material or any other item suggested by the technical sanction authority before settling payment.
- 1.53 The contractor shall pump the concrete wherever necessary to expedite the progress of work. **Nothing extra shall be paid on this account.**
- 1.54 Sample of building material, fitting and other articles required for execution of work shall be got approved from the Engineer-In-Charge before use in the work. The quantity of samples brought by the contractor shall be judge by standards laid down in the relevant BIS specification.
- 1.55 All material and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-In-Charge which shall be preserve till the completion of work. If a particular brand of material is specified in the item of work in schedule of quantity, the same shall be used after getting the same approved from Engineer-In-Charge. Wherever brand/quality of material is not specified in the items of work, the contractor shall submit the samples as per suggestive list of brand name given in the tender document /particular specifications for approval of Engineer-In-Charge. For all other items, materials and fitting carrying BIS mark shall be used with approval of Engineer-In-Charge. Wherever BIS marked material / fittings are not available, the contractor shall submit samples of material/fittings manufactured by firm of repute conforming to relevant specification or IS codes and use the same only after getting the approval of Engineer-In-Charge. To avoid delay, contractor should submit samples as stated above well in advance so as to give timely order for procurement. If any material, even though approved by Engineer-In-Charge is found defective or not conforming to specifications shall be replaced/removed by the contractor at his own risk and cost.
- 1.56 The contractor shall ensure quality construction in a planned and time in bound manner. Any sub-standard material/work beyond set-out tolerance limit shall be summarily rejected by the Engineer-In-Charge& contractor shall be bound to replace/ remove such sub-standard/defective work immediately.
- 1.57 BIS marked items (except cement and steel) required on the work shall be got tested. Only important tests shall be carried out. The frequency of such tests shall be 25%of the frequency specified in the CPWD specifications 2009 Vol. I to II with up to date correction slips. for certain items, if the frequency of test is not mentioned in CPWD specifications then relevant IS code shall be followed and tests shall be carried out @25% of frequency specified therein.

- 1.58 BIS marked materials except otherwise specified shall be subjected to quality test besides testing of other materials as per the specifications described for the item/material. Wherever BIS marked materials are brought to the site of work, the contractor shall furnish manufacturer's test certificate or test certificate from approved testing laboratory to establish that the material produced by the contractor for incorporation in the work satisfies the provisions of BIS codes relevant to the material and /or the work done.
- 1.59 Sample for testing –The contractor shall provide samples of materials required for testing free of charge. The cost of test shall be borne by the contractor / department in the manner indicate below: -
- (a) By the contractor, if the results show that the material does not conform to relevant specifications.
 - (b) By the department, if the result show that the material conforms to relevant specifications. **All other expenditure required to be incurred for talking samples, conveyance, packing etc. shall be borne by the contractor himself.**
- 1.60 However, if any load testing or special testing is to be done for concrete whose strength is doubtful, the cost of the same shall be borne by the contractor.
- 1.61 All necessary tests as per the NIT/CPWD specifications/ relevant BIS codes shall be carried out on all the materials whether ISI marked or otherwise. Wherever NIT/CPWD specifications/relevant BIS Codes do not specify the frequency of tests, the same shall be carried out as per the directions of the engineer –in-charge. Nothing extra whatsoever shall be payable on this account.
- 1.62 The contractor shall ensure quality control measures on different aspects of construction methodologies to be adopted.
- 1.63 Lists of approved makes and brand of materials for civil works and sanitary works are annexed hereto. Makes and brands of materials specified therein shall only be used on the work. The contractor shall submit brand/ make of various materials to be used for the approval of Engineer-In-Charge along with samples.
- 1.64 **All material shall be brought as per programme finalized with the Engineer-In-Charge. Any pre delivery of the material, not required for immediate consumption shall not be accepted and thus not paid for.**
- 1.65 Samples including brand/quality of materials and fitting to be used in the work shall be got approved from the Engineer-In-Charge, well in advance of actual execution and shall be preserved till the completion of the work.
- 1.66 The rates for all items of work shall, unless clearly specified otherwise, include cost of all labor, material, tools, and plants and other inputs involved in the execution of the items and **nothing extra shall be payable on this account.**
- 1.67 The contractor shall quote all-inclusive rates against the items in the schedule of quantities and **nothing extra shall be payable for any of the conditions and specifications** mentioned in the tender document unless specially specified otherwise.
- 1.68 Unless otherwise specified in the schedule of quantities, the rates for all items, shall be considered as inclusive of pumping / bailing out water wherever necessary for which **no extra payment shall be made.**
- 1.69 The rate for all items, in which the use of cement is involved is inclusive of charges for curing.
- 1.70 The foundation trenches shall be kept free from water work below ground level are in progress.
- 1.71 The contractor shall indemnify the Govt. against any claims or obligation rising out of any damage to adjacent property, structure or to building work done by him.
- 1.72 In case service are encountered during excavation /earth work and such services are required to be shifted, the contractor is bound to carry out the shifting operation as per guidance/ instructions and with the approval of the Engineer-In-Charge. However, necessary payments shall be made in this regard as per provision of the agreement.
- 1.73 Many other agencies would be executing work simultaneously at site. The contractor shall maintain proper co-ordination with other agencies in maintaining progress of work. In case of any dispute, the decision of the Engineer-In-Charge shall be final and binding.
- 1.74 **LABOUR CESS @ 1% OF THE GROSS VALUE OF THE WORK DONE WIL BE DEDUCTED FROM EACH RUNNING & FINAL BIL AS PER GOVT. NOTIFICATION.**

- 1.75 **RECOVERY FOR WATER @ 1% OF THE GROSS VALUE OF WORK DONE SHALL BE MADE FROM THE BILL.**
- 1.76 **THE CONTRACTOR COMPLIES WITH THE INSTRUCTION CONTAINED TO DPCC ORDER FOLLOWS:-**
- (a) The dismantle material /building rubbish received from dismantling/demolishing shall be dumped to the dumping ground in properly covered truck with precaution.
- 1.77 The agency has to deposit 50% of paint material before the start of work at site calculated as per theoretical consumption calculated.

2.0 CONDITION FOR CEMENT: -

- 2.1 The Contractor shall procure 43 grade Ordinary Portland cement (conforming to IS : 8112) or Portland slag cement (conforming to IS : 455) or Portland Pozzolana Cement (PPC) (Fly ash based) – conforming to IS : 1489 (Part-I) as required in the work, from reputed manufactures of cement such as ACC, Ultratech, Vikram, Shree Cement, Ambuja, Jaypee Cement, Century Cement & J.K. Cement or from any other reputed cement Manufacturer having a production capacity not less than one million tons per annum.
- The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacture(s) which the contractor proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufactures, given by the tenderer, fully or partially.**
- Supply of cement shall be taken in 50 Kg bags bearing manufacture's name, batch No. & ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-charge and got issue in accordance with provisions of relevant BIS codes. In case test results indicate that the cement arranged by the Contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost within a week's time of written order from the Engineer-in-charge to do so.
- If Portland Pozzolana cement or Portland slag cement is used, suitable modification in deshuttering time etc. shall be done if need be as per specifications and standards and as directed by Engineer – in – charge and nothing extra shall be payable on this account.
- No extra payment / deduction shall be made from the payment to the contractor for using any of the above type of cement.
- 2.4.1 The cement shall be got tested by 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.
- 2.4.2 All other charges of sampling, packing and transportation of sample shall also be borne by the contractors.
- 2.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained separately for each type of cement, 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. However, for consumption lesser beyond permissible theoretical variation recovery shall be made in accordance with conditions of contract at Schedule A to F (CPWD-7), without prejudice to action for acceptance of work/item at reduced rate or rejection as the case may be. In case of excess consumption, no adjustment shall be made.
- (i) Cement brought to site and cement remaining unused after completion of work shall not be removed from site without return permission of the Engineer-in-charge.

(ii) Damaged cement shall be removed from the site immediately by the contractor on receipt of notice in written. In case if he does not do within three days or receipt of same notice, the Engineer-in-charge shall get removed at the site of the contractor.

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

3.0 CONDITIONS FOR REINFORCEMENT STEEL: -

3.1 The contractor shall procure TMT bars of ~~Fe 415 / Fe 415D / Fe 500 / Fe 500D / Fe 550 / Fe 550D~~ grade from primary producers such as SAIL, Tata Steel Ltd., RINL, Jindal Steel & Power Ltd. and JSW Steel Ltd. or any other producer as approved by CPWD who are using iron ore as the basic raw material / input and having crude steel capacity of 2.0 Million tonnes per annum and above.

In case of non-availability of steel from primary producers, use of TMT reinforcement bars procured from secondary producers will be allowed subject to fulfillment of following conditions:

- a. The grade of the steel such as ~~Fe 415 / Fe 415D / Fe 500 / Fe 500D / Fe 550 / Fe 550D~~ or other grade to be procured is to be specified as per BIS: 1786 - 2008.
- b. The secondary producers must have valid BIS license to produce HSD bars conforming to IS 1786: 2008. In addition to BIS license, the secondary producer must have valid license from either of the firms Tempcore, Thermex, Evcon Turbo & Turbo Quench to produce TMT Bars.
- c. The TMT bars procured from primary producers and ISPs shall conform to manufacture's specifications.
- d. The TMT bars procured from secondary producers shall conform to the specifications as laid down by Tempcore, Thermex, Evcon, Turbo and Turboquench as the case may be.
- e. TMT bars procured either from primary producers or secondary producers, the specifications shall meet the provisions of IS 1786: 2008 pertaining to ~~Fe 415 / Fe 415D / Fe 500 / Fe 500D / Fe 550 / Fe 550D~~ or other grade of steel as specified in the tender.

3.2 Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications as defined under para (c) & (d) above, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in-Charge to do so.

In case contractor is permitted to use TMT reinforcement bars procured from secondary producers then:

- (i) The base price of TMT reinforcement bars as stipulated under schedule 'F' shall be reduced by Rs. 6700/- MT. However, for operation of provisions of clause 10CA in such case, the indices for TMT reinforcement bars of secondary producers will be considered same as for primary producers.
- (ii) The rate of providing & laying TMT reinforcement bars as quoted by the contractor in the tender shall also be reduced by Rs. 8.00 per kg.

3.3 The steel reinforcement bars shall be brought at site in bulk supply of 25 tonnes or more as decided by the Engineer in charge.

3.4 The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of

different sizes and lengths shall be stored separately to facilitate easy counting and checking.

- 3.5 For checking nominal mass tensile strength bend test re-bend test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

Dia of bar	For consignment below 100tonnes	For consignment above 100tonnes
Under 10 mm	One sample for each 25 tonnes or part thereof	One sample for each 40tonnes or part thereof
10 mm to 16mm	One sample for each 35 tonnes or part thereof	One sample for each 45tonnes or part thereof
Over 16mm	One sample for each 45 tonnes or part thereof	One sample for each 50tonnes or part thereof

- 3.6 The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of tests shall be borne by the contractor.
- 3.7 All other charges of sampling, packing and transportation of sample shall also be borne by the Contractor.
- 3.8 The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.
- 3.9 Steel brought to site and remaining unused shall not be removed from site without the written permission of Engineer-in-Charge.
- 3.9(i) Reinforcement including authorized spacer bars and lap pages shall be measured in length for different diameters as actually (not more than as specified in the drawings) used in the work nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.
- (ii) The standard sectional weights referred to shall be as in Table 5.4 in para 5.3.4 in revised CPWD specifications 2009 Vol. I will be considered for conversion of length of various sizes of TMT bars in to standard weight.
- (iii) Record of actual sectional weights shall also be kept dia wise and lot wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer in charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as Derived Actual Weight.
- (a) If the derived weight as in sub-para (iii) above is less than the standard weight as in sub-para (ii) above, then the Derived Actual Weight shall be taken for payment.
- (b) If the derived actual weight is found more than the standard weight, than standard weight as worked out in sub para (ii) above shall be taken for payment. Nothing shall be paid extra for the difference in Derived/ Actual Weight and standard weight.

The contractor has to obtain vouchers and furnish test certificate to the Engineer-in-charge in respect of all the lots of Steel brought by him from approved suppliers at the site of work.

- 3.10 Every care should be taken to avoid mixing different types of grades of bars in the same structural members as main reinforcement to satisfy relevant clause of IS: 456. In case of buildings, wherever the situation necessitates, the changeover shall be permitted only from any one level onwards. In case of foundations, all foundation elements (footings and grade beams) shall have the same kind of steel. In the case of columns, all structural elements up to the level of change, where the changeover is taking place should have the same kind of steel as those in columns.
- 3.11 The reinforcing steel brought to site of work shall be stored on brick / timber platform of 30 / 40 - cm height, nothing extra shall be paid on this account.

4.0 SAFETY MEASURES AT CONSTRUCTION SITE

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

- (i) The work site shall be properly barricaded.
- (ii) Adequate signage's indicating 'Work in Progress – Inconvenience caused is Regretted' or Diversion Signs shall be put on the sites conspicuously visible to the public even during night hours. These are extremely essential where works are carried out at public places in use by the public.
- (iii) The construction malba at site shall be regularly removed on daily basis.
- (iv) All field officials and the workers must be provided with safety helmets, safety shoes and safety belts.
- (v) Proper MS pipe scaffoldings with work – platforms and easy-access ladders shall be provided at site to avoid accidents.

Necessary First-Aid kit shall be available at the site.

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

5.0 SPECIFICATIONS FOR FLY ASH BRICKS - All fly ash bricks as brought to the site shall conform to the strength & durability parameters as prescribed in the tender and CPWD specifications.

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

6.1 Formwork for exposed concrete surfaces: -

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

- 6.1.2 The forms shall be constructed so as to produce a uniform and consistent texture and pattern on the face of the concrete. The formwork shall be placed so that all horizontals are constructed of lumber and are not paneled and the formwork joints shall be staggered.
- 6.1.3 To achieve a finish which shall be free of board marks, the formwork shall be faced with plywood or equivalent material in large sheets. The sheets shall be arranged in an approved pattern. Whenever possible, joints between sheets shall be arranged to coincide with architectural feature, sills, window heads or change in direction of surface. All joints between panels shall be vertical or horizontal unless otherwise directed. Suitable joints shall be approved between sheets. The joints shall be arranged and fitted so that no blemish or mark is imparted to the finished surfaces.
- 6.1.4 Forms for exposed concrete surfaces shall be constructed with grade strips (the underside of which indicate top of pour) at horizontal constructions joints, unless the use of groove strips is specified on the drawings. The reset forms shall be tightened against the concrete so that the forms will not be spread and permit abrupt irregularities or loss of mortar. Supplementary form ties shall be used as necessary to hold the reset forms tight against the concrete.
- 6.1.5 For fair faced concrete, the position of through bolts will be restricted and generally as indicated on the drawings.
- 6.1.6 Plywood and steel plates used in the formwork for obtaining exposed surfaces shall be got approved from Engineer-in-charge on each use. However, no forms will be allowed for reuse if it is doubtful to produce desired texture of exposed concrete.
- 6.1.7 Cement of only approved shade shall be used preferably of single lot to achieve integrity of texture.

6.2 Class of Surface Finish: -

6.2.1 For Beams & Slabs:

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

6.2.2 For Columns/Wall/Fins:

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

6.3 Tolerance in Finished Concrete: -

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

6.4 WALL/COLUMN/FINS:

21.4.1 Variation from the plumb	± 6mm	Upto 3m height
21.4.2 Variation from the plumb of conspicuous liner	± 6mm	Upto 6m height
21.4.3 Variation in the size of wall openings	(+)15mm (-) 6mm	
21.4.4 Variation in parapet wall thickness		
(a) Upto 30cm thickness	± 6mm	

6.5 SLAB, BEAM & GIRDER FORMS:

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

- | | |
|---------------|--------|
| (a) In any 3m | ± 6mm |
| (b) In any 6m | ± 10mm |

All the tolerances mentioned above shall apply to concrete dimensions only, and not to positioning of vertical steel or dowels. The tolerances given above are specified for local aberration in the finished concrete surface and should not be taken as tolerance for the entire structure taken as whole for the setting and alignment of formwork. Any error, within the above tolerance limits, or any other if noticed in any of the structure after part or portion stripping of forms, shall be corrected in the subsequent work to bring back the structure to its true line, level and alignment.

7.0 Poly-sulphide: The gaps between frames and supports and also any gaps in the door and windows sections shall be raked out as directed and filled with poly-sulphide of approved colour and make to ensure complete water tightness. The poly-sulphide shall be of such colour and composition that it would not stain the masonry/concrete work, shall receive paint without bleeding, will not sag or run and shall not set hard or dry out under any conditions of weather. The sample of poly-sulphide to be used for this purpose shall be got approved from the Engineer-in-Charge before its actual use.

7.1 The work shall be got executed from the specialized agency.

7.2 Total quantity of material required shall be arranged only after obtaining the prior approval of the make by Engineer-in-charge. It shall be ensured that the consumption of the material is as per specified requirements.

7.3 Before commencement of treatment on any surface, it shall be ensured that the outlet drain pipes / spouts have been fixed and the spout openings have been chased and rounded off properly for easy flow of water.

Annexure - I**(SPECIMEN)****(Ref. para 3.3 of Particular Specifications and Special conditions)****GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECT AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS**

The Agreement made thisday oftwo thousand and betweenson ofof(hereinafter called the **Guarantor** of the one part) and The Executive Director, AIIMS Rishikesh (hereinafter called Government of the other part).

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

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

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

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

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

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

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

IN WITNESS WHEREOF these presents have been executed by the Obligor and by and for and on behalf of The Executive Director, AIIMS Rishikesh on the day, month and year above written.

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

1.
2.

Signed for and on behalf of The Executive Director, AIIMS Rishikesh byin the presence of –

1.
2.

Technical specification

RESPONSIBILITY OF BIDDER (Special Conditions):-

1. Bidder shall be responsible for complete design, supply, installation, testing and commissioning including turnkey works, demolition and construction of as applicable. The bidders are required to survey the site before furnishing the quotations.
2. Bidder shall execute all required civil (foundation work as per design requirement to be submitted by the bidder) electrical, plumbing, lighting, fire safety, exhaust systems and required fencing as per design and drawing attached and other works as maybe required for complete installation and trouble-free functioning as a part of the "turnkey work".
3. 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 LMO TANK, supply system in coordination with AIIMS authorities. Bidder shall be responsible for free maintenance of LMO TANK, during warranty period. Bidder shall be responsible for supply, installation, testing and commissioning of Liquid Medical Oxygen tanks as per HTM 02-01/NFPA 99C/DIN/EN standards.
4. Hospital will provide electrical supply if required. Bidder will be responsible for trenching or other associated work related to installation and commissioning of complete LMO tank. The wiring must be done by the bidder.
5. Bidder shall 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 sub system to be supplied. Final electrical safety test, system test, and calibration should be done by authorized persons using calibrated test equipment as per standards and submit the test certificates.
6. Bidder shall be responsible for connecting the new additional LMO supply system to the existing LMO tank pipeline system of AIIMS.
- 7. Erection and commissioning of the VIE, AV coil, and the interconnection of LO plant to the manifolds of the hospital with suitable modifications is the vendors responsibility.**
- 8. Necessary maintenance of the VIE, AV coil, controllers etc. is the responsibility of the supplier.**
- 9. The vendor should liaise with the chief controller of explosives, Nagpur to get the essential safety clearance certificate. Service charge required for this work will be paid by the vendor.**

10. OXYGEN SUPPLY SYSTEM

LIQUID MEDICAL OXYGEN TANK (VACCUUM INSULATED EVAPORATOR) AN ALLIED EQUIPMENTS APPLICATION:

Storage of Liquid Oxygen and Supply of High purity Oxygen gas for medical use after conversion of liquid to gas through ambient atmospheric vaporizer.

11. LIQUID MEDICAL OXYGEN STORAGE TANK:

The double walled Vacuum Insulated Evaporator shall be constructed of stainless steel inner vessel contained within a carbon steel outer vessel. The annular space between the vessels shall be filled with non- inflammable perlite insulation material to insulate under vacuum. The VIE should be self-pressurizing type by partial evaporation of liquid oxygen through a pressure building coil by a not ferrous imported pressure regulator. The vessel shall be supplied as a functional whole with a materials of construction & the cleaning regime suitable for medical grade liquid oxygen.

SUBMITTALS:

The Liquid Medical oxygen tank shall accompany the Original Quality Test Certificate covering following Documents:

- Approval letter from CCOE along with approved drawing from CCOE.
- Approval letter from CCOE for use of cryogenic vessel(s) at site.
- Certificate from the authorized inspection agency.
- Heat chart for pressure parts.
- Dimension checks report.
- Dished End reports.
- Mechanical properties test report for production test coupon.
- Visual inspection report.
- Radiography examination report.
- Liquid penetrant examination.
- Cleaning inspection report.
- Hydro-pressure test report.

12. Liquid Oxygen supply system

Two vessels of 10 KI. each Liquid oxygen VIE vessel system will be the additional primary supply source.

The unit should consist of a double walled vertical vessel (inner pressure vessel made of stainless steel and outer vessel of carbon steel). It should be fitted with standard accessories and should be "passed" the standard inspection requirement at factory for VIE. The copy of the certificate should be forwarded to AIIMS Rishikesh prior to shipping and original should be enclosed along with the shipping document. Bidder should follow international Standards.

13. Product and Service Specification:

- Proposed capacity of the liquid oxygen storage tank is 10X2 KL.
- Gas outlet pressure to be maintained at 4.2 kg/cm².
- Space taken for installation should be as per regulations of Indian explosive controller and having easy access for LMO tank.
- The site would be protected by fence around, well lit by sodium vapour lamps and demarcated with proper signage.
- Indication of liquid oxygen level and outlet gas pressure should be provided.

14. Specification of Components

Product: The liquid medical oxygen (LMO) supplied at site should be of IP grade. The LMO supplied should comply with all relevant SMPV regulations and standards under the preview of the Indian Drugs and Cosmetic Act rules. They should also satisfy the IP 2007 (latest) specifications.

15. Storage Tank & Specifications

The storage tank and the vaporizer coils should be designed as per the ASME Sec.VIII Div. I latest Edition / EN -13458-2 Annexure-C/ AD 2000, MARKBLATTER 2004 Edition.

The cryogenic vessel will be of cylindrical shape with vaporizer and the pressure control system. It should be provided with the essential components to fill the liquid, to build up pressure, to relieve pressure, to withdraw product and to evacuate the vessel. All protective, safety and alarm provisions mandatory to Liquid Medical Oxygen plants should be supplied.

16. The requirement of the Cryogenic Vessel should be:-

- Configuration: Vertical
- Inner vessel maximum allowable working Pressure: 17 kg/cm²
- Inner vessel hydrostatic test pressure: Greater than 26 kg/ cm²
- Outer vessel material of construction: Carbon steel
- Inner vessel material of construction: Stainless steel
- Independent AV coil should be provided with each vessel.

17. Storage Tank Capacity

Vacuum insulated evaporator vessel should have a capacity of two vessel of 10 kilo liters The AV coil should have adequate capacity to handle the gas flow requirements of the hospital.

18. Vaporizer Coil

Maximum operating Pressure: 20 kg/cm²

- Design Pressure: 22 kg/cm²
- Pneumatic test Pressure: Greater than 24 kg/cm²
- Inlet temperature: - 196 to +40°C.
- Duty cycle: Continuous duty
- Flow rate : 1200 cubic metre/ hour
- Low pressure low level storage indicator (Audio-visual)
- Low pressure alarm- (Audio-Visual)

The fence, foundation, fire extinguishers, lighting (outdoor type), earth pit for lighting arrestor, safety signage, approach gate etc. are to be designed and installed by the vendor.

19. Safety

The vendor should ensure that all international safety norms and standards applicable as implemented and certified by the CCE.

Following are the mandatory provisions for vessel:

- Vessel low liquid level alarm
- Vessel low pressure alarm
- Pipeline low pressure alarm.
- Twin regulator
- Twin safety valve
- Non return valve and 3-way diverter (bypass) valve.
- Automatic alarm system (O & ED) as per AS 2896 (Aus) or HTM -02-01 (UK)
- Telemetry system
- Any software update will have to be provided by the vendor during warranty and CMC period.

20. Statutory Requirements

All statutory requirements of the Chief Controller of Explosives of India and SMPV rules need to be followed, besides all regulations and guidelines put forward by the Govt. Of India from time to time should be followed.

21. Maintenance:-

All routine preventive maintenance and break-down maintenance of the liquid oxygen plant should be done by the vendor. There should be warranty for 5 years and followed by CMC for 5 years after expiry of warranty. Experienced personnel should be readily available.

22. Piping specifications:-

Copper pipe should be as per standard BS:EN 13348 :2008 / ASTM B819 Latest version standards; Solid drawn, seamless, deoxidized, non-arsenical, half hard, 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 17 bar and especially made for brazed socket type connections.

The isolation valve body shall be made of chromium plated brass with non lubricated ball-type. All valves shall be pneumatically tested for twice the working pressure and factory degreased for medical gas service.

Copper fitting 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.

23. Installation & testing

Installation of piping shall be carried out with utmost cleanliness. Only pipes, fitting and valves that have been degreased and fitting shall be used at site. Pipe fixing clamps shall be of nonferrous or non- deteriorating plastic suitable for the diameter of the pipe.

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 CP 104. 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 particulars 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 copper 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.

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.

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.

24. Specification for Civil Work:-

- Providing and fixing G.I chain link fabric fencing of required width in mesh size 50 X 50 mm including strengthening with 2 mm dia wire or nuts, bolts and washers with ISA 75 X 75 X 8 mm as per drawing enclosed.
- Minimum grade of concrete M25 for foundation with reinforcement as per approved structural design to supplied by bidder and got approved from Engineer-in-charge
- Approach road/path 100mm thick with M25 cement concrete pavement including base concrete of 100 mm thick cement concrete of 1:5:10 (1cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) from the equipment area to existing access road as per drawing enclosed and site requirement.

25. Payment term:-

50% of tendered amount:- Upon Supply of LMO tank and its all related accessories for the tendered work and submittal of all necessary document and testing report from the NABL approved lab/Approved agencies.

40% of tendered amount:- Upon completion of installation work & satisfaction of Engineer in charge for the tendered work and submission of all necessary document, necessary approvals and testing report from the NABL approved lab/Approved agencies .

10% of tendered amount:- Upon completion of Commissioning and handing over of the work.

26. Third party quality accreditation analysis

Contractor have to done TPQA visit and submit its report during the following cases:-

- a. pre-dispatch of tank and its allied accessories
 - b. During execution of work, if required
 - c. After complete testing and commissioning of material
- No payment will be done to contractor for the visit and report submission of TPQA.
Contract has to quote rate accordingly.

General Technical specification

1. Warranty:

- a. Five years Comprehensive warranty as per conditions of contract of the TE document for complete equipment from the date of installation, commissioning and Turnkey Work from the date of satisfactory installation, commissioning, trial run & handing over of equipment to Hospital/Institution/Medical College.
- b. 98% up time Warranty of complete equipment with extension of Warranty period by double the downtime period on 24 (hrs) X 7 (days) X 365 (days) basis.
- c. The supplier shall visit the site as recommended in the. manufacturer's technical/ service /operational manual for servicing & preventing maintenance etc., but at least once in six months during the warranty period.

The vendor should Liaise with the Chief Controller of Explosives, Nagpur to get the essential safety clearance certificate. Service charge required for this work will be paid by the vendor.

2. After Sales Service:

Complaints should be attended properly, maximum within 24 hrs. The service should be provided directly by Tenderer/Indian Agent. Undertaking by the Principals that the spares for the equipment shall be available for at least 10 years from the date of supply.

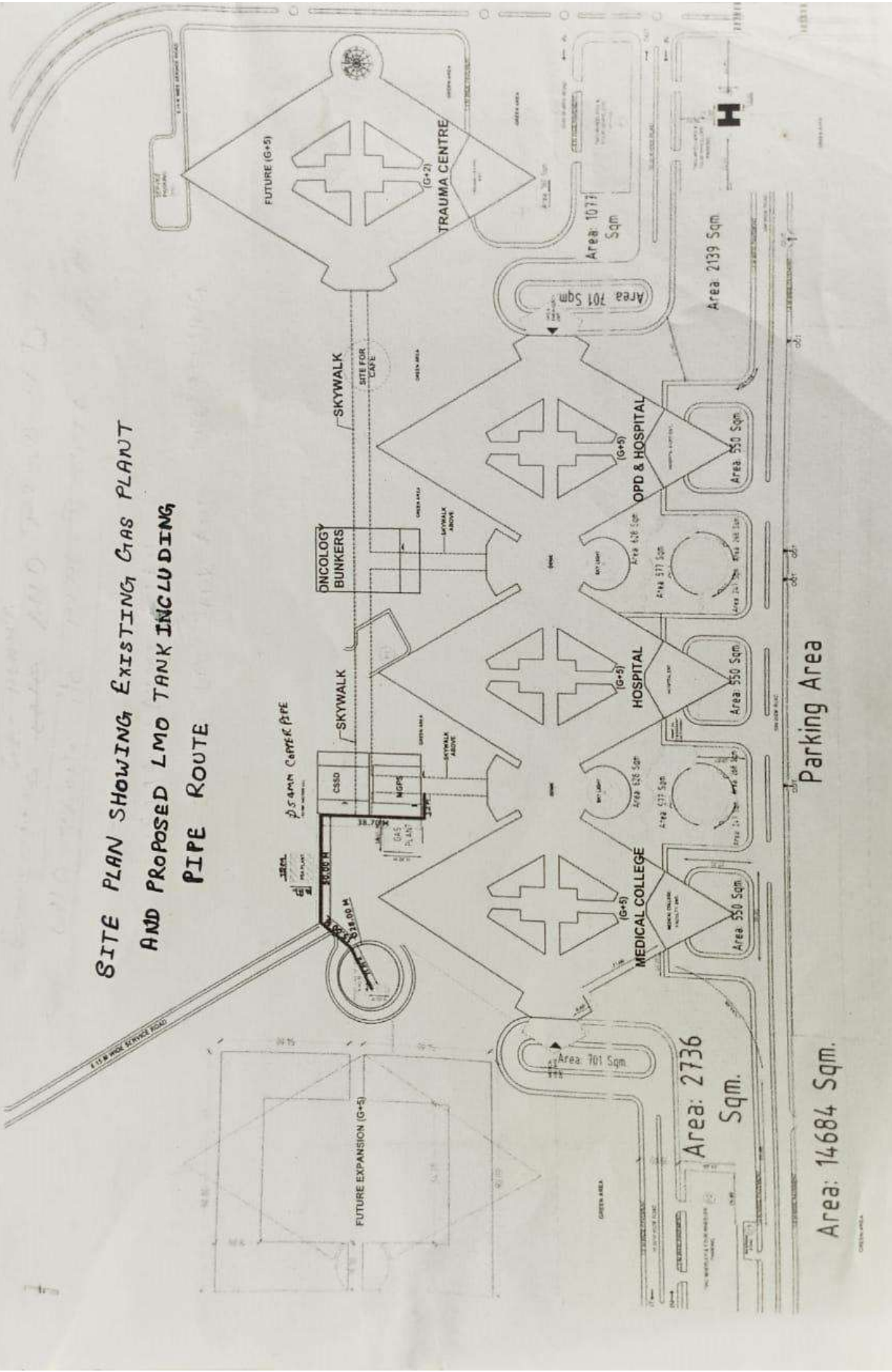
3. Training:

On site, training to Doctors/ Technicians/ staff is to be provided by Principal/ Indian Agents (if they have the requisite know-how) for operation and maintenance of the equipment to the satisfaction of the consignee.

4. **Annual Comprehensive Maintenance Contract (CMC) of subject equipment with Turnkey:**
- a. The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual of the manufacturer, labour and spares (consumable & non-consumable). after satisfactory completion of Warranty period may be quoted for next 5 years on yearly basis for complete equipment and Turnkey (if any). The supplier shall visit the site as recommended in the. manufacturer's technical/ service /operational manual, but at least once in six months during the CMC period
 - b. The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and to claim for the same will be entertained later.
 - c. Cost of CMC will be added for Ranking/Evaluation purpose.
 - d. The payment of CMC will be made on six monthly basis after satisfactory completion of said period, duly certified by end user on receipt of bank guarantee for 2.5 % of the cost of the equipment valid till 2 months after expiry of entire CMC period.
 - e. During CMC period, the supplier is required to visit at each consignee's site at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.
 - f. All software updates should be provided free of cost during CMC.
 - g. Failure of the above by the supplier, may lead to the forfeiture of the Bank Guarantee for Annual CMC.
 - h. Log of all works undertaken should be meticulously maintained by the vendor.

34856/2021/ENGG_CELL

SITE PLAN SHOWING EXISTING GAS PLANT AND PROPOSED LMO TANK INCLUDING PIPE ROUTE



Area: 14684 Sqm.

Area: 2736 Sqm.

Parking Area

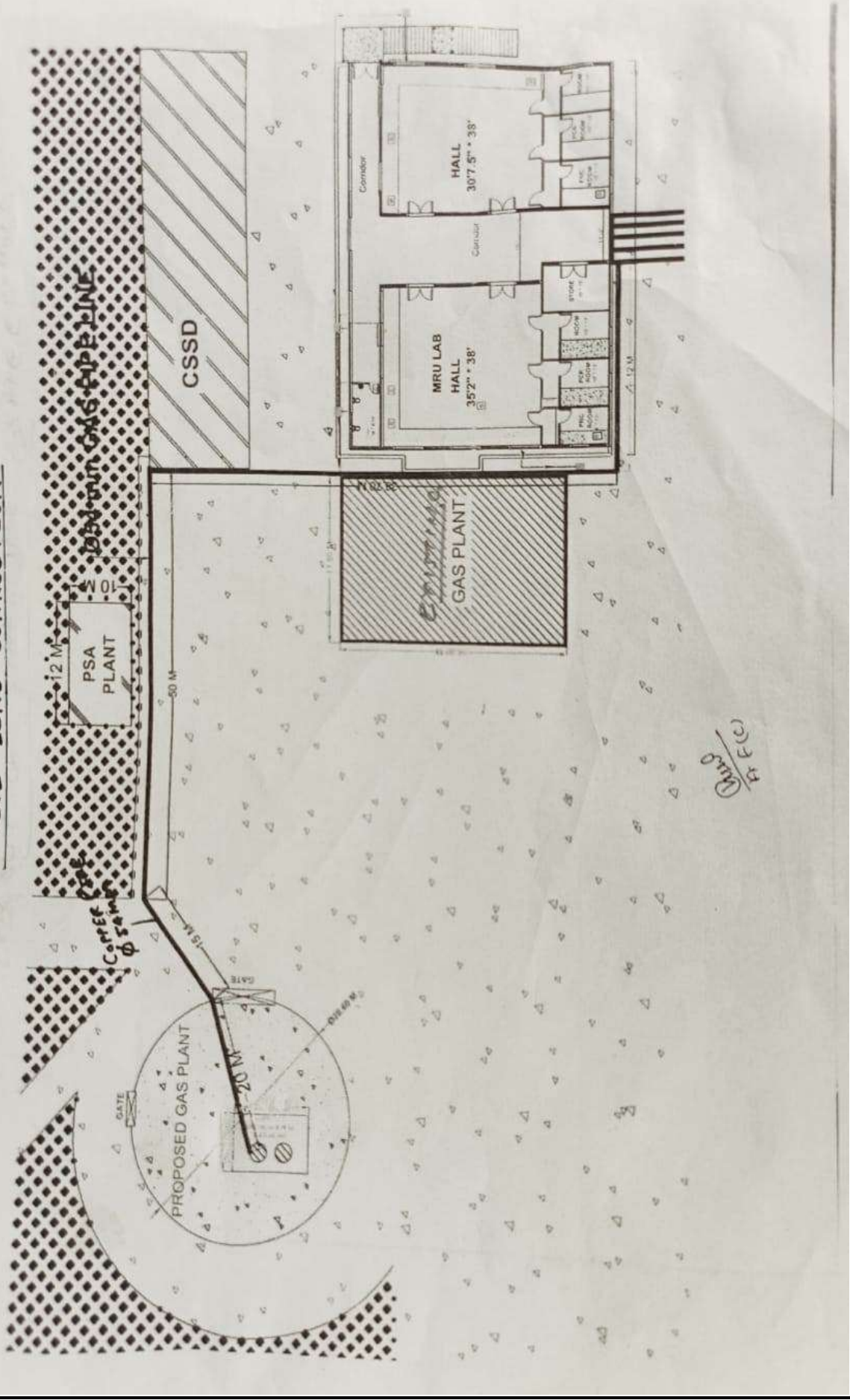
Area: 2139 Sqm

Area: 701 Sqm

H

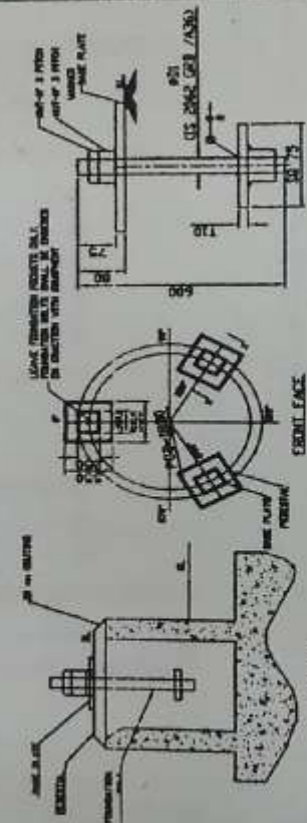
DETAIL OF PROPOSED LMO TANK LAYOUT OF
PIPE LINE CONNECTION

1/2021/ENGG_CELL

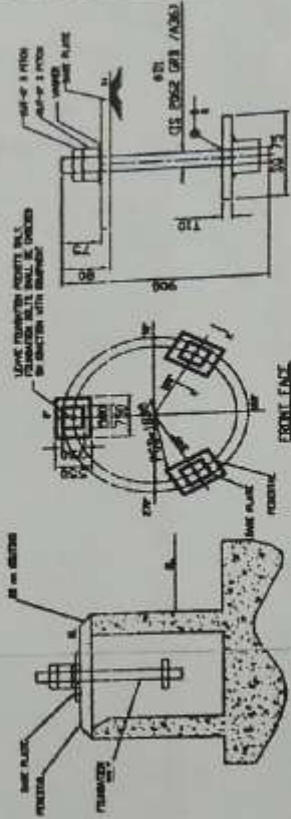


D.S.S.
R.E.C.

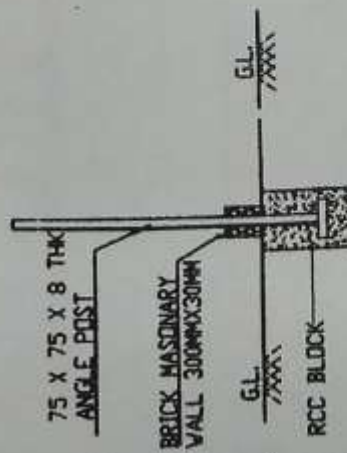
DRAWING SHOWING FOUNDATION DETAIL AND FENCING



10 KL LIQUID OXYGEN TANK FOUNDATION DETAILS OF DR

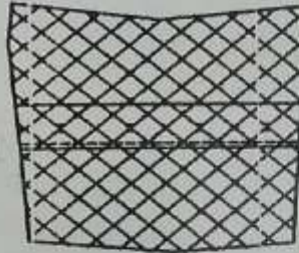


60 KL LIQUID NITROGEN TANK FOUNDATION DETAILS OF DR

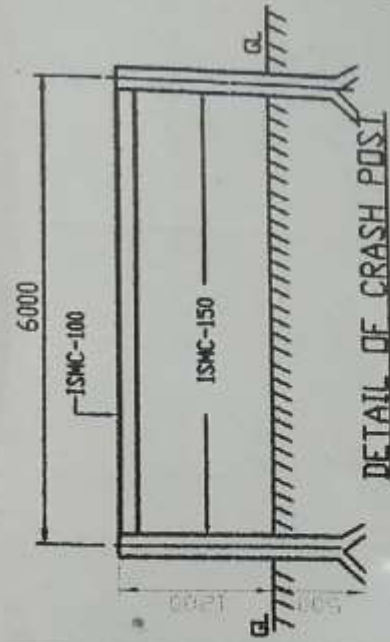


450 SQ.X 750 DEPTH R.C.C. FOUNDATION

SPOT WELDING BETWEEN DIAMOND MESH & ISA 75



ATTACHMENT DETAIL OF ANGLE POST & FENCING



DETAIL OF CRASH POST

LIST OF APPROVED MATERIALS (MECHANICAL / CIVIL)

Note :

1. Unless otherwise specified, the brand/make of the material as specified in the item nomenclature or in the particular specifications or in the list of approved materials attached in the tender, shall be used in the work.
2. The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material/ Brand/ Make.
3. Whenever the specified brand of material is not available than, the Engineer-in-charge may approve any material equivalent to that specified subject to proof being offered by the Contractor for its equivalence and its non-availability to his satisfaction.

	MATERIALS:	BRAND/MAKE
1	LMO TANK	LINDE,INOXCVA or equivalent make approved by Engineer in charge
2	VAPORISER	LINDE,INOXCVA or equivalent make approved by Engineer in charge
3	Copper pipe with Required copper fittings	Max flow/Rajco/Mehta Tube or equivalent medical grade approved by Engineer in charge
4	Acrylic Distemper, Emulsion, Synthetic Enamel Paint and Primer.	Asian Paints, ICI Dulux, Berger, Nerolac
5	Epoxy Adhesive	FOSROC, Aquomix , Choksey, BAL-ENDURA,MYK Laticrete
6	Epoxy Grouting Compound	Pidilite, Ferrous Crete(Ferro-102), MYK LATICRETE, Fosrock
7	Epoxy Primer & Paints	Berger, Pidilite, CICO, BASF, SIKA, Fosrock
8	Galvanized/Stainless Steel Anchor Fasteners	Shakti, Arrow, Hilti, Fischer
9	GI Pipe & fittings	Tata, Zenith, Jindal, Prakash Surya, Swastik; (ISI Marked only)
10	Locks / Latch	Godrej, Harrison, Dorma, Doorset (ISI)
11	Ready Mix Concrete (RMC)	Lafarge, Alchon, ACC, L&T, Grasim, Ultratech, RMC India
12	Water Proofing Compound (Liquid)	Pidilite, Cico, Impermo
13	White Cement	JK White, Birla White, Grasim
14	Cement	Birla , ACC, Ultratech, Ambuja
15	Structural steel	TATA, SAIL, Jindal, Kamdhenu Steel, Rathi

Schedule of Quantity (BOQ)

Name of work: Supply, installation testing & commissioning of additional 2x10kl Liquid Medical Oxygen (LMO) Tank & allied work at AIIMS Rishikesh

Sr.No.	Description of item	Unit	Quantity	Rate	Amount
1.	<p>Supply, installation testing & commissioning of LMO supply tank as per Design Code- ASME sec VIII Div I latest edition/ EN-13458-2 annexure-C/ AD 2000 MARKBLATTER 2004 Edition including all civil & electrical work (as per detailed drawings attached) having following specifications:-</p> <p>Quantity:- 2 X 10 KL of vessels each.</p> <p>Installation:- outdoor</p> <p>Type:- Double walled, vertical</p> <p>Capacity:- Minimum 10,000 liters water capacity- 2no.</p> <p>Max. working pressure:- 17 BarG</p> <p>Design temp:- (-)196⁰ C to (+) 50⁰ C</p> <p>Hydraulic test pressure:-26 Bar G</p> <p>Type of insulation:- vacuum , per light filled</p> <p>Safety valve set pressure :- 17Bar G (dual safety valve with three way diverter valve)</p> <p>Bursting disc set pressure- 23 Bar G (Bursting disc)</p> <p>Standard fittings- Pressure rising coil , pressure building regulator of adequate capacity & size, dual safety valve with imported three way diverter wall, bursting disc, pressure gauges, liquid overflow line, liquid level gauge & adequate numbers of extended spindle glove valve etc.</p> <p>Maximum evaporation rate < 0.35% of net value</p> <p>Material of construction- inner shell & wetted parts of SS 304 outer shell of CS ASTM A 516 Gr. 70/ CGA 341 - 2002 EN 13455 S 275/ S 355</p> <p>Joint efficiency- 100%</p> <p>Radiography- 100 % for inner, outer spot</p> <p>External piping- from LMO tank to vaporizer SS 304, from vaporizer to inlet of pressure reducing station SS 304</p> <p>Cryogenic valves- non ferrous(imported)</p> <p>Cryogenic safety valves - imported</p> <p>Pressure building regulator- non ferrous</p> <p>Leak detection test- Helium leak detection</p> <p>Painting- primer & finish with white RAL 9010</p> <p>Inspection- By third party (SGS/LLOYDS/TUV)</p> <p>Cleaning- Degreasing for oxygen service &</p>	Lot	1		

<p>pressurize with Nitrogen With drawl rate- 1000cum per hr. at 12 Bar G Accessories- Each LMO tank along with P& ID shall be fitted with following accessories</p> <ol style="list-style-type: none"> 1. Top fill valve 2. Bottom fill valve 3. Liquid charging line blow valve 4. Liquid delivery valve 5. Overflow valve 6. Gas blow valve 7. Filling coupling 8. Vaporizer coupling 9. Liquid level gauge(Dial 100 mm). 10. High level valve 11. Equalizing valve 12. Low level valve 13. Pressure gauge(100 mm dial, range-0-25 kg/ cm²) 14. Pressure gauge isolation valve 15. Pressurizing valve 16. Pressurizing coil 17. Filter 18. Pressure regulator 19. Economizer 20. Check valves 21. Evacuation port 22. Vacuum gauge connection pot/vacuum probe valve <p>Safety fittings</p> <ol style="list-style-type: none"> 1. Two safety vales for inner vessels fitted on pipeline with flow divert valves. Rupture disc for inner vessel 2. Rupture disc for inner vessel 3. Safety valve for inlet pipeline 4. Safety valve for pipeline of pressurizing evaporator 5. One rupture disc/safety device on outer vessel 6. Separate AV Coils along with all accessories for each 10KL LMO tank. <p>The VIE vessels system should be interconnected with existing tank with manual changeover system. The system should have separate tank VIE, AV coil, controllers etc. Required pipeline including necessary accessories like isolation valves, non-return valves, line regulators, Essential interconnection to the existing pipeline of LMO tanks as per site requirement including providing & fixing 54mm dia copper pipeline (pipe laid in trench with cutting and making</p>				
--	--	--	--	--

	<p>good of CC road where ever required & pipe laid overhead as per site condition) from the LMO tank to existing MGPS station (length approx 150 Mtr.) as per the layout attached through manual changeover system to be provided. Flow rate of Pressure reducing station (PRS) shall be 8000 LPM. All works complete (refer the technical specification) including material, installation, testing, All test certificate & clearances, drawings, civil works (foundation, chain link GI fencing, connecting cement concrete path from the equipment area to existing access road), fire extinguishers, lighting (outdoor type), earth pit for lighting arrestor, safety signage, approach gate etc. are to be considered and installed by the vendor as per direction of Engineer-in-charge and the specification attached. Including free warranty period of 5 year after installation, testing, commissioning and successful handing over the work to the client department.</p> <p>(Note: The bidder shall have to provide all consumable and non-consumable spare parts during the free warranty period for Five year)</p>				
2.	CAMC of 2 X 10 KL LMO tank and allied installation including providing & fixing all spares (consumable and non-consumable) etc. after completion of warranty period of five years				
	A. For first year	Month	12		
	B. For second year	Month	12		
	C. For third year	Month	12		
	D. For fourth year	Month	12		
	E. For fifth year	Month	12		