GOVERNMENT OF INDIA

CENTRAL PUBLIC WORKS DEPARTMENT

TENDER DOCUMENT

FOR

Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.

Issued by

GANGTOK CENTRAL DIVISION
CENTRAL PUBLIC WORKS DEPARTMENT
GANGTOK

Addition: NIL *Correction: NIL*
Overwriting: NIL *Deletion: NIL* *AE(P)/SC* *AE(E)(P)/SC* *EE(Gangtok)* *EE(E), Siliguri*

CPWD

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PART – A

GOVERNMENT OF INDIA
GANGTOK CENTRAL DIVISION
CENTRAL PUBLIC WORKS DEPARTMENT, GANGTOK

TENDER DOCUMENT

Name of work	:	Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.
Estimated Cost	:	**Rs. 9,95,14,932/-** (Civil = Rs.8,37,11,374.00 & Electrical Works = Rs.1,47,89,205.00 + Horticulture Works = Rs. 10,14,353.00)
Earnest Money	:	Rs.19,90,299/-(To be returned after receiving Performance guarantee)
Security Deposit	:	2.5% of tendered Value
Completion Period	:	**18 Months**
NIT No.	:	**29/EE/GCD/GTK/10/NIT/SE/SILIGURI/CPWD/2026-27**

LAST DATE FOR SUBMISSION OF BID : **Up to 3.00 pm on 04.09.2026**

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CPWD

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING FORMING PART OF BID DOCUMENT

The Executive Engineer, **Gangtok Central Division, C.P.W.D., Gangtok** on behalf of President of India invites online percentage rate bids from approved and eligible contractors of **Building & Roads category of CPWD** for the following work(s):

S. No.	NIT NO.	Name of work and location	Estimated cost put to bid (Rs.)	Earnest Money	Stipulated Period of Completion of work (in months)	Last date of online submission of bid, copy of receipt of deposition of original EMD and other documents as specified in the bid document.	Time & date of opening of bid
1	2	3	4	5	6	7	8
1	29/EE/GCD/GTK/10/NIT/SE/SILIGURI/CPWD/2026-27	Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.	Rs. 8,37,11,374/-(C) Rs.1,47,89,205/-(E) Rs. 10,14,353.00 (H) Rs. **9,95,14,932/-(C+E+H)**	Rs.19,90,299/-	**18 Months**	Upto 3:00 pm on 04.09.2026	At 3:30 pm on 04.09.2026

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 https://etender.cpwd.gov.in or www.cpwd.gov.in in free of cost.

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4. But the bid can only be submitted after deposition of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission and uploading the mandatory scanned documents such **as Insurance Surety Bonds, Account Payee Demand draft or Bankers Cheque or Fixed Deposit Receipts or / and Bank Guarantee including e-Bank Guarantee(for balance amount as prescribed) from any of the Commercial Bank towards EMD in favour of Executive Engineer as mentioned in NIT, receipt for deposition of original EMD** to division office of any Executive Engineer (including NIT issuing EE/ AE), CPWD and other documents as specified. (*EMD shall be made/ issued only from the account of the bidder/ tenderer submitting the bid/tender. EMD made/ issued from the account other than that of the bidder/ tenderer submitting the bid, shall not be accepted.*)
5. Those contractors who are not registered or have not updated their profile on the website mentioned above, are required to get registered / update their profile beforehand. The necessary training materials including the videos with step-to-step process are available on download section of https://etender.cpwd.gov.in.
6. The intending bidder must have valid Class-III digital signature to submit the tender.
7. On opening date, the contractor can login and see the bid opening process. After opening of, bids he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of JPG format and PDF format.
9. Contractor must ensure to quote rate in the prescribed column(s) meant for quoting rate in figures appears in yellow colour and the moment rate is entered, it turns sky blue.

   In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).

   However, if a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

List of Documents to be scanned and uploaded within the period of tender submission:

I. **Enlistment Order of the Contractor**.

II. Insurance Surety Bond, Demand Draft/ Account Payee Banker's Cheque / FDR/ Bank Guarantee of any commercial Bank against EMD.

III. Copy of receipt of deposition of original EMD issued from Division office of any Executive Engineer of CPWD.

IV. GST Registration Certificate, if already obtained by the bidder.
If the bidder has not obtained GST registration as applicable, then he shall scan and upload following undertaking along with bid documents.
"If work is awarded to me, I/we shall obtain GST registration certificate, as applicable, within one month from the date of receipt of award letter or before release of any payment by CPWD, whichever is earlier, failing which I/We shall be responsible for any delay in payments which will be due towards me/us on account of the work executed and/or for any action taken by CPWD or GST department in this regard".

V. Undertaking of structural stability and soundness in the tender documents as per form 'F' furnished on **Page No. 91**.

VI. Contractor has to upload ERP Training Certificate as per Modification for Enlistment under rule 12.0 in ER-2023 as per DG, CPWD OM No. DG/ Enlist. Rules – 2023/10 dated 22.04.2024.

VII. Valid Mobile Number, E- mail address& correspondence address to be uploaded on letter head of the bidder with seal and sign.

VIII. Electrical contractor licence and Horticulture contractor licence OR undertaking that they will either, obtain valid electrical / horticulture licence at the time of execution of electrical / horticulture work or associate contractor having valid electrical / horticulture licence of appropriate class.

IX. Any other document required as per NIT.

CPWD

CPWD-6 FOR E-TENDERING

1. The Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok on behalf of President of India invites online percentage rate tender from approved and **eligible contractors of Building & Roads category of CPWD** for the following work:

Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.

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

1.1 The work is estimated to cost: **Rs. 9,95,14,932/-**(Civil Works = **Rs.8,37,11,374/-,** Electrical Works = **Rs.1,47,89,205/-**, Horticulture Works = **Rs. 10,14,353**/-). This estimate, however, is given merely as a rough guide.

2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7(or other Standard Form as mentioned) which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.

3. The time allowed for carrying out the work will be **18 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. (i) The site for the work is available.

OR

~~The site for the work shall be made available in parts as mentioned in Schedule 'F'.~~

(ii) The Architectural and Structural drawings for work are available.

~~Or~~

The architectural and structural drawings shall be made available in phased manner, as per requirement of the work and as per approved programme of completion submitted by the contractor after award of work. If at any time the contractor feels that the work is getting delayed due to non-availability of any kind of drawing, the contractor shall communicate in writing to the Engineer-in-charge, 1 Month before the requirement of drawing. If no communication is made in this regarding to the engineer-in-charge, it shall be deemed that there is no hindrance due to drawings. No hindrance shall be recorded for 1 Month from the date of request for drawing by the contractor.

5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website https://etender.cpwd.gov.in or www.cpwd.gov.in free of cost.

6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.

7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.

8. Earnest Money in the form of **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee including e-Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks** (drawn in favour of **Executive Engineer**, **Gangtok Central Division, C.P.W.D., Gangtok)** shall be scanned and uploaded to the e-tendering website within the period of bid submission.

The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT. This receipt shall also be uploaded to the e-tendering website by the intending tenderer upto the specified tender submission date and time.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, 50% of earnest money or Rs. 20 lacs, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee including e-Bank Guarantee of any Commercial Bank having validity fora period of 90 days for single bid works and 240 days for two bid system or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

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

Copy of Enlistment Order and certificate of work experience and other documents as specified in the notice inviting e-tender shall be scanned and uploaded on the e-Tendering website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in e-tender notice shall have to be

submitted by the lowest bidder only along with physical EMD of the scanned copy of EMD uploaded within a week physically in the office of tender opening authority.

Online bid documents submitted by intending bidders shall be opened only of those bidders, **who has deposited EMD with any division of CPWD and other documents scanned and uploaded are found in order.**

Receipt of deposition of EMD (Receipt No. ..... / date .....)
1. **Name of work: Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.** 2. NIT No.: 29/EE/GCD/GTK/10/NIT/SE/SILIGURI/CPWD/2026-27 3. Estimated Cost: **Rs.9,95,14,932/-** 4. Amount of Earnest Money Deposit: **Rs 19,90,299/-** 5. Last date of submission of bid **upto 3:00 pm on 04.09.2026**
1. Name of contractor .....# 2. Form of EMD.....# 3. Amount of Earnest Money Deposit .....# 4. Date of submission of EMD .....# Signature, Name and designation of EMD receiving officer (EE/AE(P)/AE/AAO) alongwith Office stamp (#To be filled by EMD receiving EE/DDH)

* The Authority receiving EMD in original form shall examines the EMD deposited by the bidder and issue receipt of deposition of earnest money to the agency in a given format uploaded by tender inviting Authority. The receipt can also be issued by any subordinated gazette authority as authorized by Engineering-in-charge/DDH.
* The original EMD receiving authority release the EMD to unsuccessful bidders after the expiry of stipulated bid validity period or immediately after acceptance of the successful bidder, whichever is earlier, after verification from the e-tendering portal website (https://etender.cpwd.gov.in>closed Tender>all) that the particular contractor is not L-1 tenderer and work is awarded.
* EMD shall be made/ issued only from the account of the bidder/ tenderer submitting the bid/tender. EMD made/ issued from the account other than that of the bidder/ tenderer submitting the bid, shall not be accepted.

The bid submitted shall be opened at 03:30 PM on 04.09.2026

9. The bid submitted shall become invalid and e-tender processing fee (if applicable) shall not to be refunded if:
   (i) The bidder is found ineligible.
   (ii) The bidder does not upload scanned copies of all the documents stipulated in the bid document.
   (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.
   (iv) If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

10. **The contractor whose tender is accepted will be required to furnish Performance Guarantee (PG) as mentioned in schedule 'E' and within the period specified in Schedule F. PG shall be 5% of the Estimated cost put to tender (ECPT) or contract amount whichever is higher, or as prescribed from time to time. If the quoted bid amount is less than 80% of the estimated cost put to tender, the bidder shall be required to submit Additional Performance Guarantee (if applicable) in addition to the Standard Performance Guarantee (PG). The amount of Additional Performance Guarantee (if applicable) shall be equivalent to the difference between the 80% amount of ECPT and quoted amount. (e.g. if ECPT is A and quoted amount is 0.7A then the amount of APG shall be 0.8A - 0.7A).** The Additional Performance Guarantee (if applicable) shall be in the prescribed format of Performance Guarantee and has to be submitted within the time frame prescribed for submission of Performance Guarantee. These guarantees shall be in the form of Insurance Surety Bonds or Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee and Additional Performance Guarantee (if applicable) within the period as indicated in Schedule F, including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee and Additional Performance Guarantee (if applicable). In case of forfeiture of EMD as aforesaid, the bidder will be debarred from re-tending process of the work. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. If applicable and also ensure the compliance of aforesaid provisions by the sub-contractors, if any engaged by the contractor for the said work within the period specified in Schedule F.

11. The description of the work is as follows: -

Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.

Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a 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 of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

12. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.

13. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.

14. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.

15. The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

16. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.

17. The bids for the work shall remain open for acceptance for a period of **30 (thirty) days** from the date of opening of bids.
Further

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

(ii) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department **after expiry of 7 days** after last date of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.

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

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

a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

b) Standard C.P.W.D. Form 7 or other Standard C.P.W.D. Form as applicable.

19. **For Composite Bids**

19.1.1 The Executive Engineer in charge of the major component will call bids for the building work. The cost of bid document and Earnest Money will be fixed with respect to the combined estimated cost put to tender for the composite bid.

19.1.2 The bid document will include following three components:

Part A:-

CPWD-6, CPWD-7 including schedule A to F for the major component of the work, Standard General Conditions of Contract for CPWD 2023 (for Construction work) as amended/modified upto previous day of last date of submission of tender including extension, if any.

Part B:-

General/specific conditions, specifications and schedule of quantities applicable to major component of the work.

Part C & D:-

Schedule A to F for minor component of the work (competent authority under clause 2 and clause 5 shall be same authority as mentioned in schedule A to F for major components), General/specific conditions, specifications and schedule of quantities applicable to minor component(s) of the work.

19.1.3 In case the main contractor himself meet the required eligibility criteria as laid down by the Department for specialized component of work, he shall be allowed to execute the same after due verification etc., otherwise the bidder must associate himself, with agency of the appropriate class and category eligible to bid for specialized components.

19.1.4 The eligible bidders shall quote rates for all items of major component as well as for all items of minor components of work.

19.1.5 After acceptance of the bid by competent authority, the EE in charge of major component of the work shall issue letter of award on behalf of the President of India. After the work is awarded, the main contractor will have to enter into one agreement with EE in charge of major component and has also to sign two or more copies of agreement depending upon number of EE's/DDH in charge of minor components. One such signed set of agreement shall be handed over to EE/DDH in charge of minor component(s). EE of major component will operate part A and part B of the agreement. EE/DDH in charge of minor component(s) shall operate Part C/Part D along with Part A of the agreement.

19.1.6 Entire work under the scope of composite bid including major and all minor components shall be executed under one agreement.

19.1.7 Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works.

19.1.8 The main contractor has to associate agency(s) for specialize component(s) conforming to eligibility criteria as defined in the bid document and has to submit detail of such agency(s) to Engineer-in-charge of relevant component(s) within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer-in-charge of relevant component(s).

19.1.9 In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-charge of relevant specialized component(s).

The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in-charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.

19.1.10 The main contractor has to enter into MoU with agency(s) associated by him. Copy of such MoU shall be submitted to EE/DDH in charge of each relevant component as well as to EE in charge of major component. In case of change of associate contractor, the main agency (s) has to enter into MoU/agreement with the new contractor associated by him.

19.1.11 Running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer-in-charge of the discipline of minor component directly to the main contractor.

19.1.12 The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Engineer-in-Charge of major component after record of completion certificate of all other components.

19.1.13 Final bill of whole work shall be finalized and paid by the EE of major component.

19.1.14 Engineer(s) in charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.

20. CPWD does not have funds of its own and it carries out the works of client departments from their funds (deposit, budgetary, authorization). The CPWD is making payments to the contractors after getting budget / authorization / deposit from various Ministries / Client Departments. The payment to the contractor can be done only on availability of funds for that work from client department and in case of delay in getting funds from Ministry / Client Department, CPWD will not be responsible for delay in payment and no any extra compensation on this account shall be granted apart from specified elsewhere in this document. The contractor has to quote his tender accordingly considering this aspect

21. GST and all other tax as applicable, Education Cess, **Sikkim** State construction worker's welfare cess etc. shall be payable by the contractor and Government will not entertain any claim whatsoever in respect of the same.

22. The intending bidders are required to update their profile in CPWD e-tender portal and to upload their bids well in advance of last date of submission of tender. Any issue related to updating profile / uploading tender can be resolved through the concerned Executive Engineer / Assistant Engineer (Phone No. 03592203499, e-mail ID ee_gcd01@yahoo.com) or ERP help line No. 24002403286 or e-mail ID cpwd.support@techmahindra.com. The e-tendering bidders are also advised not to wait to raise any issues till the last date of submission of bid in their own interest.

~~23. **THE MINIMUM ELIGIBILITY CRITERIA FOR SPECIALIZED WORKS WHEREVER APPLICABLE**.~~

~~**(A). Civil Component works:**~~

~~a) The tenderer must associate with himself, agencies of the appropriate eligibility to tender for each of specialized nature of items / work listed below individually. Such works shall be got executed only through associated agencies specialized in these fields. The tenderer whose tender is accepted shall indicate the name(s) of his associated specialized agencies those fulfilling the eligibility criteria laid down below after award of work and at least 30 days before commencement of such items / work for the approval of the Engineer in Charge of that component, whose decision shall be final and binding.~~

~~b) The responsibility of execution of Specialized civil works (water proofing work etc.) under scope of NIT shall lie with Main Building Contractor only. He is required to furnish the documents/certificates in support of his experience to execute the mentioned specialized civil works given in Table-1 below after award of work. If the main agency does not have required experience, they must associate Specialized Agency/Agencies to execute the mentioned civil components of the work having requisite experience as per table-1, However, the building category contractor shall also be eligible to carry out himself any or all of these works without associating any specialized agency provided (a)He fulfills the prescribed eligibility criteria respectively for these work(s). In this connection, it is mentioned that the building contractor and the associated specialized agencies shall give required affidavit to confirm their association to the Engineer-in-charge. Tender accepting authority may approve change of sub-agency in case it is required during the currency of the contract.~~

~~c) In case building category contractor does not fulfils the prescribed eligibility criteria respectively for these work(s), they must associate Specialized Agency/Agencies to undertake the specialized component/components of the work having requisite experience for individual works as mentioned below:~~

~~TABLE -1~~

~~Sl. No.~~	~~Sub head of work~~	~~Eligibility criteria –The agency should have successfully completed, works as mentioned during last **seven years** ending previous day of last date of submission of Bid.~~			~~Definition of similar work~~
	~~Civil Work~~				
		~~Three similar works each of value not less than (Rs.)~~	~~Two similar works each of value not less than (Rs.)~~	~~One similar work each of value not less than (Rs.)~~	
~~1.~~	~~Water Proofing Work~~	~~Rs.17,77,600/-~~	~~Rs.26,66,400/-~~	~~Rs.35,55,100/-~~	**~~work of providing and laying of any water proofing treatment in any civil structure/ building~~**

~~Signature of the Divisional officer~~
~~For & on behalf of President of India.~~

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

CPWD-7

GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT

STATE	Sikkim	CIRCLE	SE,Siliguri
BRANCH	B&R	DIVISION	Gangtok Central Division, C.P.W.D., Gangtok

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PERCENTAGE RATE TENDER & CONTRACT FOR WORKS

(A) Tender for the work of: Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.

(Time) (Date)

(i) To be uploaded online by **3:00 PM on 04.09.2026.**

(ii) To be opened in presence of tenderers who may be present at 3:30 PM on 04.09.2026 in the office of the Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok.

TENDER

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

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing 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 respect of accordance with, such conditions so far as applicable.

I/We agree to keep the tender open for **30 (Thirty) days** from the due date of its opening and not to make any modification in its terms and conditions.

A sum of **Rs. 19,90,299/-**is hereby forwarded in **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks** as earnest money.

A copy of earnest money in Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (for balance amount as prescribed) from any of the Commercial Bank is scanned and uploaded. If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/ We agree that President of India or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

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

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

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

Dated: Signature of Contractor

Witness: Postal Address

Address:

Occupation:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for an on behalf of the President of India for a sum of ` ……..(Rupees …… ……).

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

(a)

(b)

(c)

For & on behalf of President of India

Signature ……..

Dated:

Designation …….

PROFORMA OF SCHEDULES

(Civil Works)

SCHEDULE 'A'

Schedule of quantities :Page No. 97-119(Civil)

SCHEDULE 'B'

Schedule of material to be issued to the Contractor: **Nil**

SCHEDULE 'C'

Tools and Plants to be hired to the Contractor: **Nil**

SCHEDULE 'D'

Extra schedule for specific requirements/document for the work, if any. **: Nil**

SCHEDULE 'E'

Reference to General Conditions of contract	**Applicable GCC is General Conditions of contract Construction works 2023, as modified and corrected upto previous day of the last date of submission of the tender.**	
Name of Work: Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.		
Estimated cost of the work:	Civil Items of Work	Rs.8,37,11,374/-
	Electrical item of work	Rs.1,47,89,205/-
	Horticulture Works	Rs. 10,14,353/-
	Total	**Rs.9,95,14,932/-**
Earnest money	Rs.19,90,299/- (to be returned after receiving performance guarantee)	
Performance Guarantee	(a) PG: 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher). (b) APG: Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT) the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.	

	(c) Performance Guarantee shall remain valid for a minimum period of six months beyond the date of completion of all contractual obligations as per GCC. The Additional Performance Guarantee (APG) shall be in the prescribed format of Performance Guarantee and has to be submitted within the time frame prescribed for submission of Performance Guarantee. The other terms and conditions of release etc. of APG shall be same as that of PG.
Security Deposit	2.5% of the tendered value of the work

SCHEDULE 'F'

GENERAL RULES & DIRECTIONS:

Officer inviting tender	**Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok**

Definitions:

2(vi)	**Engineer-in-Charge**	
	For Civil items of work	**Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok or successor thereof**
	For Electrical items of work	**Executive Engineer (Elect.), Siliguri Central Electrical Division, C.P.W.D., Siliguri or successor thereof**
	For Horticulture items of work	**Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok or successor thereof**
2(viii)	Accepting Authority	**Superintending Engineer (Siliguri), CPWD or successor thereof**
2(x)	Percentage on cost of materials and labour to cover all overheads and profits	**15%**
2(x)(b)	**Standard Schedule of Rates:**	
	Civil Items of Work:	DSR 2023 with correction slips upto previous day of the last date of upload /Submission of bid including extension to bid submission date, if any
	Electrical Items of Work:	DSR (E&M) 2025 with correction slips upto previous day of the last date of upload /Submission of bid including extension to bid submission date, if any

	Horticulture Items of Work:	DSR (Horticulture & Landscaping) 2025 with correction slips upto previous day of the last date of upload /Submission of bid including extension to bid submission date, if any
2(xi)	Department:	Central Public Works Department
9(ii)	Standard CPWD contract Form:	General Conditions of contract **(Construction works)** 2023, CPWD Form 7 as modified and corrected upto previous day of the last date of upload /Submission of bid including extension to bid submission date, if any.

Clause 1	i) Time allowed for submission of Performance Guarantee, **Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof** from the date of issue of letter of acceptance	7(Seven) Days
	ii) Maximum allowable extension **with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above**	3(Three) Days
Clause 2	Authority for fixing Compensation under Clause 2	**Superintending Engineer, Siliguri, CPWD or successor thereof**
Clause 5	Number of days from the date of issue of letter of acceptance for reckoning date of start.	**10 Days**
	Mile stone(s)-	As per table of milestones in Page No. 30
In the event of not achieving the necessary milestones as assessed from mile stone chart, applicable % of the tended value of work will be withheld for failure of respective mile stone.		
Time allowed for execution of work		**18 Months**
(i)	Authority to convey the decision of shifting of milestone and extension of time	**Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok or successor thereof**
(ii)	Authority to decide rescheduling of milestone and extension of time	**Superintending Engineer, Siliguri, CPWD or successor**

(iii)	Shifting of date of start in case of delay in handing over of site	**Superintending Engineer, Siliguri, CPWD or successor**

PROFORMA OF SCHEDULE Clause 5 Schedule of handing over of site			
Part	**Portion of Site**	**Description**	**Time Period for handing over reckoned from date of issue of letter of intent**
Part A	Portion without any hindrance	Full site	10 days
Part B	Portions with encumbrances	N.A	-
Part C	Portions dependent on work of other agencies	N.A	-
The drawings/design shall be made available in phased manner, asper requirement of the same as per approved programme of completion submitted by the contractor after award of work and progress of work thereof and no claim of damages for issue of drawings in phased manner shall be admissible.			
Clause 6	Mode of Measurement: - Computerized Measurement Book (CMB) / Electronic Measurement Book (EMB)		**Electronic Measurement Book (EMB)**

Clause 7	Gross work to be done together with net payment/Adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	**Rs.40.00 Lacs**
Clause 7A	**Whether Clause 7A shall be applicable**	**Yes**
Clause 8	**Competent authorities inspect & issue part / final completion certificate.**	1. Engineer-in-charge major component. 2. Engineer-in-charge minor component. 3. Superintending Engineer, Siliguri or successor thereof
Clause 8 A	Authority to decide compensation on account if contractor fails to submit completion plans.	Superintending Engineer, Siliguri or successor thereof

Clause 10A	List of testing equipment to be provided by the contractor at site lab.	**Refer page 38 to 39**
Clause 10B (ii)	Whether clause 10B(ii) shall be applicable.	**Yes.**
Clause 10C	Component of labour expressed as percentage of value of work.	**Not Applicable**
Clause 10CC		**Applicable**
	A. For Civil Component	
Sl. No.	**Relevant component of material / labour for price escalation**	**Percentage of total value of work.**
1.	Component of Cement	10%
2.	Component of Labour	25%
3.	Civil component of other construction materials	45%
4.	Reinforcement steel bars / TMT bars/ Structural Steels (including strands and cables)	20%
TOTAL =		**100%**
	B. For E & M Component	
1.	Component of Labour	15%
2.	E & M Component of construction materials	85%
TOTAL =		**100%**

Clause 11	**Specification to be followed for execution of work**:
For Civil items of work	CPWD Specifications 2019 Vol. 1 and Vol. 2 with correction slips up to previous day of the last date of submission of tender.

Building information model (BIM) is applicable and BIM professional to be deployed by contractor **(NIT approving authority to write Yes or No)**	**No**

Clause 12

	Type of work: -	Construction work
12.2(c)	**Deviation Limit beyond which clauses 12.2(c) shall apply for building work**	**100%**
(i)	Deviation limit beyond which clauses 12.2(c) shall apply for foundation work (except items mentioned in earthwork subhead in DSR and related items)	**100%**
(ii)	Deviation limit for items mentioned in earthwork subhead of DSR and related items	**100%**

The completion cost should not exceed 1.50 times of tendered amount (as per DG/CON/Construction 2023/03 dated 06/12/2023).

Clause 16	**Competent Authority for Deciding reduced rates:**	
	For Civil items of work	Superintending Engineer, Siliguri, CPWD or successor thereof
	For Electrical items of work	Superintending Engineer, Siliguri, CPWD or successor thereof.
	For Horticulture items of work	Superintending Engineer, Siliguri, CPWD or successor thereof.
Clause 24	List of mandatory machinery, tools & plants to be deployed by the contractor at site.	**As per Page No. 71 to 72 of this document.**
The Contractor shall deploy T&P, Plant and Equipment required for execution of work within contract period. Schedule of deployment of the equipment shall be as per requirement of work for completion of work as per work program within stipulated time and contractor himself shall be responsible for their efficient use avoiding any idling. No damages/compensation shall be payable on account of idle Manpower, Labour, T&P, Plant and Equipment and Loss of Profit etc. for whatsoever reason, not even for delay in work due to justified hinderances.		
Clause 19C	Authority to decide for each default	**Engineer-in-Charge**
Clause 19D	Authority to decide for each default	**Engineer-in-Charge**
Clause 19G	Authority to decide for each default	**Engineer-in-Charge**
Clause 19K	Authority to decide for each default	**Engineer-in-Charge**

Clause 25	**(i)**	**Conciliator : SDG, Kolkata.**
	(ii)	**Arbitrator Appointing Authority: Superintending Engineer, Siliguri, CPWD or successor *thereof***
	(iii)	**Place of Arbitration: HQ of Engineer-in-charge**

Clause 32 **Requirement of Technical Representative(s) and Recovery Rate**

Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical representative	Minimum experience (Years)	Number (Of Major + Minor component)	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 32	
						Figures	Words

1.	Graduate Engineer	Civil	Project Manager	5 Years (and having experience of one similar nature of work)	1	Rs. 25,000/- per month per person	Rupees Twenty Five Thousand per month per person
2.	Graduate Engineer or Diploma Engineer	Civil + Electrical	Project planning / Quality/ Billing Engineer	2 Years or 5 years respectively	1 + 1	Rs. 15,000/- per month per person	Rupees Fifteen Thousand per month per person

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

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

~~Building Information Model (BIM) professional shall be deployed by the contractor for the projects wherever required as mentioned in Schedule F.~~

~~The BIM professional shall be available for the work as and when requires by Engineer in-charge.~~

~~The BIM professional will study 3D architectural models, architectural drawings generated from 3D models, service drawings and structural drawings.~~

~~The BIM professional will interact with architects, planning & site engineers to get the clashes removed.~~

~~**The recovery shall be made from bill of contractor in case of non-deployment of BIM Professionals/ technical staff as mentioned in Schedule "F" of NIT without giving any notice in writing. Minimum recovery for not deploying Building Information Model (BIM) professional shall be Rs. 2,00,000.00 (Two lac) per month.**~~

~~The decision of Engineer-in-charge in this respect is final and binding on the contractor.~~

Clause 38

i)	a)	Schedule/ statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates 2023 published by CPWD	**D.S.R. 2023 with correction slips upto previous day of the last date of submission of the tender.**
ii)		**Variations permissible on theoretical quantities**	
	a)	Cement	
		For works with estimated cost put to tender not more than Rs.25 lakhs.	**3% plus/minus**
		For works with estimated cost put to Tender more than Rs.25 lakhs	**2% plus/minus**
	b)	Bitumen all works	**2.5% plus only& nil on minus side.**
	c)	Steel reinforcement and structural steel Sections for diameter, section and category.	**2% plus/minus.**
	d)	All other materials	**Nil**

CPWD

Table of Mile Stone(s)

Sl. No.	Description of mile stone	Period for completion from date of start in days/months	Withheld amount for non-achievement of mile stone.
1.	All RCC work of "office building" up to plinth level i/c providing cable entry pipes to the building & retaining wall/ protection wall around residential building.	7 Months.	1.25% of tendered amount
2.	All RCC work of "office building" up to (G+1) floor level and PBO office building up to plinth level i/c providing cable entry pipes to the building & retaining wall/ protection wall around residential building.	10 Months.	1.00% of tendered amount
3.	All RCC structure work of all building up to (G + 2) floor including conduit laying in slabs & brick work up to (G+2), for all services i/c electrical conduit drops in walls & switch boxes and water supply and sanitary line.	13 months	1.00% of tendered amount
4.	Finishing in all respect of all building such as painting, wiring fitting and fixtures in all respect installation of civil & electrical fitting / fixture and fans & E&M services. like Firefighting system, Fire alarm system, CCTV system, EPBAX system Lan/wifi System, Compound lighting with LED fittings & pole, DG Set, Solar PV System, UPS, Elect. Panels and Cable laying etc.	16 Months.	1.00% of tendered amount
5.	Overall completion of all Services and Development works (Civil & electrical) including Horticulture works. Testing & commissioning of all E&M services. Clearance of Site and handing over of all building & sites complete in all respect.	18 Months.	0.75% of tendered amount

In the event of not achieving the necessary milestones as assessed from mile stone chart, applicable % of the tendered value of work will be withheld for failure of respective mile stone.

Note :-

(1) Mile stones shall be applicable both for major component (civil work) as well as for minor component (electrical & Horticulture work) of the work.

(2) The milestone (s) will be treated as achieved when both Civil as well as Electrical work specified in milestone (s) is achieved simultaneously.

(3) Engineer in charge of Major component will withhold for non-achievement of milestone(s) after getting confirmation in writing from the Engineer in charge of Minor component.

CPWD

GENERAL RULES & DIRECTIONS

1. All work proposed for execution by contract will be notified in a form of invitation to tender posted on website as the case may be. This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit and Performance guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.

2. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power holding a power-of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the **Indian Partnership Act, 1952**.

3. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.

Applicable for Percentage Rate Tender only (CPWD - 7)

4A. Applicable for Percentage Rate Tender only (CPWD-7) In case of Percentage Rate Tenders, contractor shall fill up the usual printed form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in Schedule of Quantities at Schedule-A, he will be willing to execute the work. The tender submitted shall be treated as invalid if:-

I. The contractor does not quote percentage above/below on the total amount of tender or any section/sub head of the tender.

II. The percentage above/below is not quoted in figures & words both on the total amount of tender or any section/sub head of the tender.

III. The percentage quoted above/below is different in figures & words on the total amount of tender or any section/sub head of the tender.

Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected.

4B. In case the lowest tendered amount (estimated cost +/- amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit revised price bid online quoting percentage above/ below on estimated cost of tender including all sub sections/sub heads as the case may be on revised template which has been sent to them by tender inviting authority (TIA), but the revised percentage quoted above/below on tendered cost or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers.

In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited.

If the revised tendered amount of two more contractors received in revised offer is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of SE of the circle EE(s) in-charge of major & minor component(s) (also DDH in case Horticulture work is also included in the tender), & the lowest contractors those have quoted equal amount of their tenders.

In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each contractor.

Contractor(s), whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.

4. The officer inviting tender or his duly authorized assistant, will open tenders in the presence of any intending contractors who may be present at the time.

6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.

7. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgment or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier.

Applicable for percentage Rate Tender only (CPWD - 7)

8. In case of Percentage Rate Tenders only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy.

Applicable for Percentage Rate Tender only (CPWD - 7)

9. In Percentage Rate Tender, the tenderer shall quote percentage below/above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g., 'Rs. 2.15P and in case of words, the word 'Rupees' should precede and the word 'Paisa' should be written at the end.

10. (i) The Contractor whose tender is accepted, will be required to furnish performance guarantee **at specified percentage of the tendered amount as mentioned in schedule E and within the** period specified in Schedule F. This guarantee shall be in the form of **Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial banks.**

(ii) The contractor whose tender is accepted will also be required to furnish by way of Security Deposit for the fulfilment of his contract, an amount equal to 2.5% of the tendered value of the work. The Security deposit will be collected by deductions from the running bills as well as final bill of the contractor at the rates mentioned above. The Security amount will also be accepted in cash or in the shape of Government Securities. Fixed Deposit Receipt of a Scheduled Bank or will also be accepted for this purpose provided confirmatory advice is enclosed.

12. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in Charge.

13. GST or any other tax applicable in respect of inputs procured by the contractor for this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same. However, component of GST at time of supply of service (as provided in CGST Act 2017) provided by the contract shall be varied if different from that applicable on the last date of receipt of tender including extension if any.

14. The contractor shall give a list of both gazetted and non-gazetted C.P.W.D. employees related to him.

15. The tender for building work includes, in addition to building work, all other works such as sanitary and water supply installations drainage installation, electrical work, horticulture work, roads and paths etc.

16. No labour below the age of 18 years shall be employed on the work.

DETAILS OF ELECTRICAL CONTRACTOR

(**To be submitted before start of work**)

i. Name of Electrical Contractor : M/s .....
ii. Address :.....
iii. Class of Registration :.....
iv.Detailsof Registration of the Electrical Contractor

Sl. No.	Department	Registered Yes/No	Registration No.	Tendering limits in Lacs	Validity of Registration	Debarred from Tendering Yes/No
1	2	3	4	5	6	7
1.	CPWD					
2.						

Note : All columns of above Proforma must be filled in.

Contractor's signature

CONSENT LETTER

I hereby give my consent to work as electrical contractor till the completion of work. Also, I will be responsible for necessary action to hand over the installation and for rectification of defects and repair during the obligatory maintenance period. I will execute the work as per CPWD Specifications and Additional Conditions of the Contract.

I will also engage suitable Engineer for the work as per condition of the contract.
I further certify that the above particulars pertaining to me are correct.

Dated :

Signature of Electrical Contractor

CPWD

SALIENT/MANDATORY REQUIREMENTS FOR THE TENDER

Name of Work: **Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.**

1 The tenderer is advised to read and examine the tender documents for the work and the set of drawings available with Engineer-in-charge. He should inspect and examine the site and its surroundings by himself before submitting his tender.

2 Separate schedule of quantity is included in this tender for civil and electrical items of work. The contractor shall quote the percentage rates in figures and words accurately so that there is no discrepancy in rates written in figures and words.

3 Time allowed for the execution of work is **18 Months**.

4 The contractor(s) shall submit a detailed program of execution in accordance with the master programme/milestone within ten days from the date of issue of award letter.

5 Quality of the project is of utmost importance. This shall be adhered to in accordance with the provisions of CPWD specifications and guidelines given in the relevant paras.

6 The contractor (s) shall make his own arrangements for electricity and water required for the execution of work.

7 **Cement shall be arranged by the contractor himself.**

8 **Steel Reinforcement shall be arranged by the contractor himself.**

9 Contractor has to deploy required Plant and machinery on the project. **Minimum number of plant and machinery to be deployed by him is indicated at Page No. 71-72 and the same shall be deployed at the time of its requirement at site.** In case the contractor fails to deploy the plant and machinery whenever required and as per the direction of the Engineer-in-charge, he (Engineer-in-charge) shall be at a liberty to get the same deployed at the risk and cost of the contractor.

10 Contractor has to provide reinforcement cover blocks made of approved proprietary pre packed free flowing mortars (Conbextra as manufactured by M/s Fosroc Chemical India Ltd. or equivalent as approved) of high early strength.

11 The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Superintending Engineer/Executive Engineer may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

12 Contractor has to provide and laid stone in stair case (tread and raising) in full single length or 2 meter , whichever is less without any extra cost.

PART – B

MATERIAL AND QUALITY ASSURANCE

1. The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed along with check lists to enforce quality control.
2. The contractor shall get the source of all other materials, not specified elsewhere in the document, approved from the Engineer-in-Charge. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost. Similarly, the contractor shall submit brand/ make of various materials not specified in the agreement, to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.
3. The contractor shall submit shop drawings of staging and shuttering arrangement, aluminum work, and other works as desired by Engineer In Charge for his approval before execution. The contractor shall also submit bar bending schedule for approval of Engineer –in – charge before execution.

4. Test Laboratories :

A) Laboratory at site :

The contractor shall establish a testing lab at site and provide testing equipment and materials for the field tests mentioned in the list of mandatory tests given in CPWD specifications 2019 Vol. 1 & 2. Nothing extra shall be payable to him on this account. The representatives of the department shall be at liberty to inspect the testing facilities at site and conduct testing at random in consultation with Engineer in charge. The contractor shall provide all necessary facilities for the purpose. The laboratory shall be equipped, inter alia, with the following equipments:

a) **Balances:**

i) 7 kg. to 10 kg. capacity, semi-self indicating type – accuracy 10 gm.

ii) 500 gm. capacity, semi-self indicating type - accuracy 1 gm.

iii) Pan Balance- 5 kg. Capacity- accuracy 10 gm.

b) **Ovens-** Electrically operated, thermostatically controlled upto 110°C- Sensitivity 1°C.

c) **Sieves:** as per IS: 460 - 1962

i) I.S. Sieves – 450 mm internal dia, of sizes 100 mm, 80 mm, 63 mm, 50 mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75 mm, complete with lid and pan.

ii) I.S. Sieves – 200 mm internal dia (brass frame) consisting of 2.36 mm, 1.24 mm, 600 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns with lid and pan.

d) Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly.

e) Equipment for slump test- slump cone, steel plate, tamping rod, steel scale, scoop.

f) Equipment for concrete testing

i) Concrete cube moulds 15x15x15cm.	24 Nos.
ii) Pruning Rods 2Kg weight length 40cm and ramming face 25mm	1No.
iii) Extra Bottom plates for 15cm cube mould	6Nos.
iv) Standard Vibration table for cubes	1No
v) Dial gauges 25 mm travel- 0.01 mm/division Least count-	1 No.
vi) Compression testing machine of 100 tonne capacity.	1 No.
vii) Vicat apparatus for testing setting time of cement.	1 No.
viii) Verning calipers 12" & 6" size.	1 No.
ix) Screw Gauge 0.1 mm – 10mm, least count 0.05.	2 Nos.

Not less than 90% tests for material be performed at site lab with above stated equipment's, however at least 10% testing of materials shall be got done from external laboratories. However, for the tests to be carried out by the external laboratories, the contractor shall supply free of charge all the materials required for testing, including transportation.

The testing charges for all mandatory tests as given in CPWD Specification 2019 Vol. –I & II to be borne by contractor. All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.

B) Other Laboratories :

B1 The contractor shall arrange carrying out all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including charges for testing.

B2 However, no testing charges will be payable by the contractor for the tests conducted in CPWD laboratories.

B3 If the tests, which were to be conducted in the site laboratory are conducted in other laboratories for any the reasons, the cost of such tests shall be borne by the contractor.

C) Field Laboratory :

C1 The contractor shall at his own expense, setup a material testing lab equipped with the testing equipment as specified in schedule F at site for conducting routine field test.

D) External Laboratory :

D1 Letter for submitting sample(s) for testing of material shall be sent through e-mail to the Lab by authorized representative of Engineer-in-charge or Engineer-in-charge of the work along with name(s) of test(s) to be done on the materials.

D2 The contractor shall collect the sample(s) from the site and submit it to the lab; make necessary payment for the testing charges. He will inform on the same day through email to authorized representative of Engineer-in-charge and Engineer-in-charge regarding submission of sample(s) and payment made to the lab. If he either fails to collect or submit the sample(s) to the lab within 03 days or in time as prescribed in the specifications, whichever is earlier, the Engineer-in-charge shall collect and submit the sample(s) and make necessary payment for testing charges to the lab. In such case, Engineer-in-charge shall make recovery on account of collection and submission of sample(s) to the lab and paid testing charges etc. from the next R/A bill / Final bill of the contractor. This action of Engineer-in-charge shall be final and binding.

If the contractor fails three times in collection and / or submitting sample(s) and / or fails to make payment for testing charge, the contractor shall be debarred from tendering in CPWD for a period of two years.

E) **Sampling of Materials :**

E1 Sample of building materials fittings and other articles required for execution of work shall be got approved from the Engineer-in-Charge. Articles manufactured by companies of repute and approved by the Engineer-in-Charge shall only be used. Articles bearing BIS certification mark shall be used in case the above are not available, the quality of samples brought by the contractor shall be judged by standards laid down in the relevant BIS specifications. All materials and articles brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work.

E2 The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-Charge.

E3 BIS marked materials except otherwise specified shall be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specifications described for the item/materials. Wherever BIS marked materials are brought to the site of work, the contractor shall if required, by the Engineer-in-Charge furnish manufacturers test certificate 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.

E4 The contractor shall procure all the materials in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.

E5 All materials brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.

E6 The contractor shall be fully responsible for the safe custody of the materials issued to him even if the materials are in double lock and key system.

E7 The Stone aggregate/stone, sand shall be brought from any quarries subjected to the said materials confirm CPWD specifications.

5 The day to day receipt and issue accounts of different grade/brand of cement shall be maintained separately in the standard proforma by the technical representative of the contractor of work and which shall be duly signed by the contractor or his authorised representative and Jr. Engineer-in-charge of work.

6 The contractor shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, audio-video recording etc. Nothing extra shall be payable to the contractor on this account. However cost of photographs, slides, audio/videography etc shall be borne by the department.

7 The contractor shall be fully responsible for the safe custody of materials brought by him issued to him even though the materials are under double lock key system.

8 The rate of items of flooring is inclusive of providing sunk flooring at bath rooms kitchen etc. and nothing extra on this account shall be paid.

9 Separate cement registers showing the receipt of the OPC and PPC shall be maintained at site. The contractor shall construct separate godowns for storage of OPC & PPC at site and nothing extra on this account shall be payable.

10 Cement issued shall be for consumption at site only. No cement for factory made items and those not manufactured at site shall be issued.

11 In case there is any discrepancy in frequency of testing as given in the list of mandatory test and that in the individual sub-head of work as per CPWD specification 2019 Vol. 1 & 2 the higher of the two frequencies of testing shall be adopted.

ADDITIONAL CONDITIONS FOR CEMENT

1 The contractor shall procure **Portland Pozzolana Cement** (conforming to IS: 1489 -Part-I), as required in the work, from reputed manufacturers of cement, such as A.C.C., Ultratech, Ambuja, Jaypee Cement, & J.K. Cement or from reputed cement manufacturers having a production capacity not less than one million tonnes per annum as approved by ADG/SDG of the sub region. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacturer(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturers, given by the tenderer, fully or partially.

Supply of cement shall be made in 50 kg. bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of the relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not confirm to the relevant BIS code 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.

The cost of tests shall be borne by the contractor in the manner indicated below:

a) Testing charges to be borne by contractor. All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.

2. The cement shall be brought at site in bulk supply of approximately 20 tonnes or as directed by the Engineer-in-Charge.

3. The cement godown of the capacity to store a minimum of 500 bags of cement shall be constructed by the contractor at site of work for which no extra payment shall be made. Double lock provision shall be made to lock the door of the cement godown. The keys of one lock shall remain with the Engineer-in-charge or his authorized representative and the key of the other lock shall remain with the contractor. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at any time.

4. The contractor shall supply free of charge the cement required for testing.

5. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10A/ 11 of the contract. The theoretical consumption of cement also shall be worked out as per procedure

prescribed in clause 38 of the contract and shall be governed by the conditions laid therein.

6. Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot & arid regions, the minimum curing period shall be 14 days or its equivalent.

7. Till the time, BIS makes it mandatory to print the %age of fly ash on each bag of cement, the certificate from the PPC manufacturer indicating the same shall be obtained and permission obtained from Engineer-in-Charge before use of such cements in works.

8. The contractor may use OPC in place of PPC only after written permission of Engineer-in-Charge. In such case, no extra payment shall be made in any form to the contractor by the Department.

ADDITIONAL CONDITIONS FOR STEEL REINFORCEMENT

1. The Contractor shall procure IS marked TMT steel bars or low alloy steel bars of various grades from Primary Steel manufacturer such as SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd and JSW Steel Ltd, or any other steel manufacturer or their authorized dealers (as per selection criteria laid down by the Department from time to time) having valid BIS license for IS:1786-2008 (Amendment -1 November 2012).
2. The steel bars manufactured in India shall be classified, for the purposes of their use in work of CPWD, as under:

   1) Bar Set I, if it complies with the requirements given in the latest version of IS: 1786, and additional requirement (e.g. Chemical Composition Requirement for Manganese and Copper, Tempered Martensite (TM) Ring Requirement, Marking Requirement and compliance of the provisions of ISO 9001:2015 and ISO 14001 :2004). and

   2) Bar Set II, if it complies with the requirements given in the latest version of IS 1786.

3. Reinforcement steel bars to be used in this work shall be of type Bar Set I. having grade 500D/ 550D.
4. The contractor shall have to obtain vouchers and furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work.
5. 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, 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.
6. The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more, or as decided by the Engineer-in-charge.

7. The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion & 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.

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

Size of bar	For consignment below 100 tonnes	For consignment over 100 tonnes
Under 10 mm dia bars	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof

10 mm to 16 mm dia bars	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof
Over 16 mm dia bars	One sample for each 45 tonnes or part thereof	One sample for each 60 tonnes or part thereof

9. 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.

10. The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10A/11 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by the conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations recovery at the rate so prescribed shall be made. In case of excess consumption, no adjustment needs to be made.

11. The steel brought to the site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.

12. Steel bars brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.

13. If the quantity of steel actually used in the work is found to be more than the theoretical quantity of steel including authorised variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that after the completion of the work the quantity of steel used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in clause 38). The cost of quantity of steel so less used shall be recovered from the contractor at rate as specified in schedule 'F'. Decision of the Engineer-in-Charge in regard to theoretical quantity of steel which should have been actually used and recovery of the rate specified shall be final and binding on the contractor.

14. In case the contractor brings surplus quantity of steel the same after completion of the work will be removed from the site by the contractor at his own cost after approval of the Engineer-in-Charge.

15. Reinforcement including authorized spacer bars and overlaps shall be measured in length of different diameters, as actually (not more than as specified in the drawing) used in the work, nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.

16. The standard sectional weights referred to as in Table 5.4 under para 5.3.4 in CPWD specifications for works 2019 Vol. 1 will be considered for conversion of length of various sizes of MS bars, Tor steel bars and TMT bars into standard weight.

17. Records of actual sectional weight shall also be kept dia-wise & 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.

18. If the derived weight as in para 16 above is lesser than the standard weight as in para 16 above, the derived actual weight shall be taken for payment.

    If the derived actual weight is found more than the standard weight then the standard weight as worked out in para 15 above shall be taken for payment. In such case nothing extra shall be paid for the difference between the derived actual weight and the standard weight.

19. Mixing of different type of steel/different grades of steel shall not be allowed in the same structural members as main reinforcement to satisfy clause 26.1 of IS:456.

20. Tolerances on Nominal Mass (individual sample) shall be as under:-

Sl. No.	Nominal size mm	Tolerances on the Nominal Mass, percentage
1	Upto and including 10	-8%
2	Over 10 upto& including 16	-6%
3	Over 16	-4%

GENERAL TERMS AND CONDITIONS

1 The order of preference in case of any discrepancy as indicated in condition No. 8.1 under "Conditions of Contract" give in standard CPWD contract form may be read as the following:

i) Nomenclature of items as per schedule of quantities.

ii) Particular specification and special condition, if any.

iii) CPWD specifications.

iv) Architectural Drawings

v) Indian standard specifications of B.I.S.

vi) Sound Engineering Practice

A reference made to any Indian Standard specification in these documents, shall imply to the latest version of that standard. Including such revision/amendments as issued by the bureau of Indian standard upto last date of receipt of tenders. The contractor shall keep at his own cost all such publications of relevant Indian standard applicable to the work at site.

If there are varying or conflicting provisions made in any document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention/interpretation of the tender and his decision shall be final and binding on the contractor.

2 Except for the items, for which particular specifications are given or where it is specifically mentioned otherwise in the description of items in the schedule of quantities the work shall generally be carried out in accordance with the "CPWD specifications 2019 Vol. 1 and Vol. 2 (with upto date corrections slips). (Hereinafter to be referred to as CPWD specifications) and instructions of Engineer-in-Charge. Wherever CPWD specifications are silent the latest IS codes/specification shall be followed.

3 Unless otherwise provided in the Schedule of Quantities/Specifications, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the work and nothing extra shall be payable to him on account of the same. Extra payment for centering/shuttering, if required to be done for heights greater than 3.5 m shall however be admissible at the rates arrived at in accordance with clause 12 of the agreement, if not already specified.

4 a) 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.

b) The contractor (s) shall get himself acquainted with nature and extent of the work and satisfy himself about the availability of materials from kiln or approved quarries for collection and conveyance of materials required for construction.

5 The tenderer shall see the approaches to the site. In case any approach from main road is required by the contractor, the same shall be made good, improved and

maintained by the contractor at his own cost. No payment shall be made on this account.

6 The contractor (s) shall give to the Municipality, Police and other authorities all necessary notices etc. that may be required by law and obtain all requisite Licenses for temporary obstructions, enclosures etc. and pay all fee, taxes and charges which may be leviable on account of these operations in executing the contract. He shall make good any damage to the adjoining property whether public or private and shall supply and maintain light and other illumination on for cautioning the public at night.

7 The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night speed limit boards red flags, red lights and providing barriers. He shall be responsible for all dangers and incidents caused to existing / new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work.

8 Contractor shall provide permanent bench marks 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 levels and locations, given in the Architectural and plumbing drawings

9 The contractor shall make his own arrangement for obtaining electric connection(s) if required and make necessary payments directly to the department concerned.

10 Other agencies doing works related with this project may also simultaneously execute their works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying/burying in the work, pipes cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for the other agencies. Nothing extra over the Agreement rates shall be paid for doing these.

11 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 restrictions/instructions and nothing extra shall be payable on account of the same.

12 The contractor shall fully comply with all legal orders and directions of the Public or local authorities or municipality and adhere by their rules and regulations and pay all fees and charges for which he may be liable in this regard. Nothing extra shall be paid/reimbursed for the same.

13 The building work shall be carried out in the manner complying in all respects with the requirements of the relevant bylaws and regulations of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-charge and nothing extra shall be paid on this account.

14 The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted by making his own arrangements for water supply, electricity etc. and nothing extra whatsoever shall be payable for the same.

15 If as per local Municipal regulations, huts for labour are not to be erected at the site of work, the contractor shall be required to provide such accommodation at a place as is acceptable to the local body and nothing extra shall be paid on this account.

16 In case of items for which abbreviated nomenclature is not available in the aforesaid publication and also in case of extra and substituted items for which abbreviated nomenclature are not provided for in the agreement, full nomenclature of item shall be reproduced in the measurement books and bill forms for running account bills.

17 For the purpose of recording measurements and preparing running account bills, the abbreviated nomenclature indicated in the publications Abbreviated Nomenclature of Items of DSR 2023 shall be accepted. The abbreviated nomenclature shall be taken to cover all the materials and operations as per the complete nomenclature of the relevant items in the agreement and relevant specifications.

18 For the final bill, however, full nomenclature of all the items shall be adopted in preparing abstract in the measurement books and in the bill forms.

19 No Advance payment will be paid against any running/ final bill submitted after recording of final completion of the work.

20 It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.

21 The structural and architectural drawings shall at all times be properly co-related before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless otherwise given in writing by the Engineer-in-charge.

22 The contractor shall maintain in perfect condition, all portions executed till completion of the entire work allotted to him. Where however phased delivery of work is contemplated these provisions shall apply separately to each phase.

23 The entire royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingle sand and carried earth etc. collected by him for execution of the work, directly to the Revenue authority or authorized agents of the State Government concerned or the Central Government, as the case may be.

24 PROGRAMME CHART

i) The contractor shall prepare an integrated programme chart for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier as indicated in the mile stones under clause 5 of the contract and submit the

same for approval to the Engineer-in-Charge within ten days of the award of the contract.

ii) The programme chart should include the following:-

a) Descriptive note explaining sequence of various activities.

b) Network (PERT/CPM/BAR CHART)

c) Programme for procurement of materials by the contractor

d) Programme of procurement of machinery/equipment's having adequate capacity commensurate with the quantum of work to be done within the stipulated period by the contractor.

25 If it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved programme referred above the contractor shall produce a revised programme showing the modifications to the approved programme to ensure completion of the work within the stipulated time for completion.

26 The submission for approval by the Engineer-in-Charge of such programme or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the agreement.

27 If the work is carried out in more than one shift or during night no claim on this account shall be entertained.

28 Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor at his 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.

29 The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including sanitary and water supply fittings 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.

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

31 Any cement slurry added over base surface for continuation of concreting for better bond is deemed to have been built in the items and nothing extra shall be payable for extra cement considered in consumption on this account.

32 The contractor shall take instructions from the Engineer-in-charge for stacking of materials. No excavated earth or building materials etc. shall be stacked/collected in areas where other buildings, roads, services, compound walls etc. are to be constructed.

Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.

33 The materials shall be issued to the contractor at the place of delivery as mentioned in the Schedule-B during the working hours as per the rules of CPWD stores in force from time to time. If these are delivered at any other place, adjustments on accounts of the difference in cost of cartage shall be affected as per the terms of clause 12 of the contract agreement. The contractor shall however have to cart the materials to the site of work at his cost as soon as these are issued.

34 Materials like reinforcing bars, flats, tees, angles, sheets, CI and SCI pipes etc., if contemplated to be issued shall be issued in available sizes and lengths and the contractors shall bear the cost of cutting and shaping them according to the requirements of work. No claim for the wastage on this account shall be entertained.

35 The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by the departments and shall construct suitable godowns, yards at the site of work for storing all materials as to be safe against damage by sun, rain, dampness, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose, at his own cost. Materials to be charged directly to work and stipulated for issue free of cost shall also be issued to the contractor as soon as those are received at site or at the stipulated place of issue. The provision of this para shall apply equally and fully to those as well.

36 All materials obtained from the Govt. stores or otherwise on receipt shall be got checked by the Engineer-in-charge of the work or his representations before use.

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

i) The contractor shall submit for the approval of Engineer-in-Charge names of specialized agencies of repute along with their technical capacity proposed to be engaged by him, who must have executed satisfactorily works of value as specified in mandatory conditions.

ii) The works 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 work and satisfy himself that the information available thereof 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 executing by the commencement of work on the basis of any erroneous and or incomplete information.

iii) The contractor shall take all precautions to avoid accidents by, exhibiting caution boards day and night, speed limit boards, red flags, red light and providing necessary

barriers and other measures required from time to time. The contractor shall be responsible for all damages and accidents due to negligence on his part.

iv) Other agencies will also simultaneously execute and install the works of electrification, air conditioning, lifts, fire-fighting etc. for this work and the contractor shall provide necessary facilities for the same. The contractor shall leave such recesses, holes openings etc. as may be required for the electric, air-conditioning and other related works (for which inserts, sleeves, brackets, conduits base pinion, clamps etc. shall be supplied free of cost by the department unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work & brick work, if required and nothing extra shall be payable on this account.

v) All materials obtained from Govt. stores or otherwise shall be got checked by the Engineer-in-Charge or his any authorized supervisor staff on receipt of the same at site before use.

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

vii) All Architectural drawings if given in the tender other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fixings involved unless and otherwise specifically mentioned. However, the work shall be executed in accordance with the drawings duly approved by the Engineer-in-Charge.

38 Samples of all materials and fittings to be used in the work in respect of brand manufacturer and quality 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. Articles bearing BIS certifications mark shall only be used unless no manufacturer has got BIS mark for the particular material. Any material/fitting whose sample has not been approved in advance and any other unapproved material brought by the contractor shall be immediately removed as soon as directed.

The rates for all items of work shall unless clearly specialized otherwise include cost of all labour, material tools and plants and other inputs involved in the execution of the item.

The contractor (s) 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 documents unless specifically specified otherwise.

Unless otherwise specified in the schedule of quantities the rates for all items shall be considered as inclusive of pumping/baling out water, if necessary, for which no extra payment shall be made. Those conditions shall be considered to include water from any source such as inflow of flood, surface and sub-soil water etc. and shall apply to the execution in any season.

The rates for all items in which the use of cement is involved is inclusive of charges for curing.

The foundation trenches shall be kept free from water while works below ground level are in progress.

The work shall be executed and measured as per metric dimensions given in the schedule of quantities, drawings etc. (FPS units wherever indicated are for guidelines only).

Payment for items of "RCC work", brick work and concrete work above different floor shall be made at the rates provided for those items. For operation of these rates, the floor level shall be considered as top of the main structural slab in that floor viz. top of RCC slab in main room and not top of any sunk or depressed floor for lavatory slabs.

The rates of items of flooring is inclusive of providing sunk flooring in Bath-rooms, kitchen, etc. and nothing extra on this account shall be payable.

39 The contractor shall provide at his own cost suitable weighing, surveying, leveling and measuring equipment's as may be necessary at site for checking. All such equipment's shall be got calibrated in advance from the repute laboratory suggested by the Engineer-in-Charge. Nothing extra shall be payable on this account.

40 On completion of work, the contractor shall submit at his own cost four prints of "as built" drawings to the Engineer-in-Charge within 30 days of completion of work. These drawings shall have the following information:

a) Route of all piping and their diameters including soil waste pipes & vertical stacks.

b) Ground and invert levels of all drainage pipes together with locations of all manholes and connections upto outfall.

c) Route of all water supply lines with diameters, location of control valves, access panels etc.

41 Maintenance of Register of Tests

(i) All the registers of tests to be carried out at construction site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge in the same manner as being issued to CPWD field staff.

(ii) The test registers to be issued to the contractor are:

a) Material at site account register

b) Cement register

c) Master test register

d) Cube test register

e) Paint register

f) Inspection register

g) Drawing register

(iii) All samples of materials including cement concrete cubes shall be taken jointly with contractor by JE and out of this, at least 50% sample shall be taken in presence of AE in charge. If there is no JE, all samples of materials including cement concrete cubes shall be taken by AE jointly with contractor. All the necessary assistance shall be provided by the contractor. Cost of samples materials is to be borne by the contractor and he shall be responsible for safe custody of samples to be tested at site.

(iv) All the tests in field lab setup at construction site shall be carried out by the Engineering staff deployed by the contractor which shall be 100% witnessed by JE and 50% of tests shall be witnessed by AE-in-Charges. At least 10% of the tests are to be witnessed by the Executive Engineer.

(v) All the entries in the registers will be made by the designated Engineering staff of the contractor and same should be regularly reviewed by JE/AE/EE.

(vi) Contractor shall be responsible for safe custody of all the test registers.

42 Submission of copy of all test registers, Materials at site register along with each alternate Running Account Bill and Final Bill shall be mandatory. These registers should be duly checked by AE(P) in Division office and receipts of register should also be acknowledged by Account Officer by signing the copies and register to confirm receipt in Division office.

If all the test registers and hindrance register is not submitted along with each alternate R/A bill & Final Bill, it will be responsibility of EE & AAO that no payment is released to the contractor.

43 Maintenance of Material at Site (MAS) Register-

(i) All the MAS registers including cement and steel registers shall be maintained by Contractor which shall be issued to the contractor by Engineer-in-Charge in the same manner as being issued to CPWD field staff.

(ii) Each of the entry of receipt of material at site shall be 100% test checked by JE or by AE if there is no JE.

(iii) Each MAS register shall be checked by JE at least twice a week and at least once a week by AE. If there is no JE then MAS registers will be checked by AE at least twice a week.

(iv) Cement Register shall be reviewed by EE at least once in a month.

44 **Frequency of Testing:** All mandatory tests shall be carried out as per frequency procedure prescribed in CPWD specification and as and when directed by the Engineer-in-Charge.

45 Secured Advances:

(i) Secured Advances on the security of bonafied materials brought at site shall be made in accordance with the provision of clause 10B(i) of the General Condition of the contract. However, bonafied materials on which secured advance has been given shall be incorporated/incorporation started on the work within 3 months of payment of secured advance. Such secured advance shall be recovered in full from the next payment made to the contractor.

PARTICULAR SPECIFICATIONS

1. EARTH WORK

The work shall be done in accordance with CPWD specifications.

Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.

2. CONCRETE WORK

The concrete work shall be done in accordance with the CPWD specifications. All the works done upto plinth level will be measured and paid in foundation work upto plinth level. Nothing extra will be paid for higher plinth level.

3. RCC WORK

3.1 If the quantity of cement actually used in the work is found to be more than the theoretical quantity of cement including authorized variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that after the completion of the work, the quantity of cement used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in clause 38) the cost of quantity of cement so less used shall be recovered from the contractor at the rate as specified in schedule 'F'. Decision of the Engineer-in-Charge in regard to the quantity of cement which should have been actually used as per the schedule and recovery at the rate specified shall be final and binding on the contractor.

3.2 For non-scheduled items, the decision of the Superintending Engineer regarding theoretical quantity of the cement which should have been actually used shall be final and binding on the contractor.

3.3 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.

3.4 In case the contractor brings surplus quantity of cement the same after completion of the work will be removed from the site by the contractor at his own cost after approval of the Engineer-in-Charge.

3.5 Cement register for the cement shall be maintained at site.

Cement bags shall be stored in separate godowns to be constructed by the contractor at his own cost as per sketch (which is only indicative and actual size will depend on the site requirements) given in CPWD specifications with weather proof roofs and walls. Each godown shall be provided with a single shutter door with two locks. The key of one lock shall remain with Engineer-in-charge or his authorized representative and that of the other lock with the authorized agent of the contractor at the site of work so that the cement is issued from the godown according to the

daily requirements with the knowledge of both parties and proper account for the same is maintained in the standard proforma.

PROFORMA FOR THE CEMENT REGISTER

Date of receipt	Quantity received	Progressive total	Date of issue	Quantity issued	Items of work for which issued
1	2	3	4	5	6

Qty. returned at the end of the day	Total issued	Daily balance in hand	Contractor's initial	JE's initial	Remarks (AE/EE's periodical check)
7	8	9	10	11	12

3.6 The RCC work shall be done with Design Mix concrete unless otherwise specified. In the nomenclature of items wherever letter M has been indicated, the same shall imply for the design Mix concrete. For the nominal Mix in RCC, CPWD specifications shall be followed. The Design Mix Concrete will be designated based on the principles given in IS:456, 10262 & SP 23. The contractor shall design mixes for each class of concrete indicating that the concrete ingredient and proportions will result in concrete Mix meeting requirements specified. In case of use of admixture and/or white cement, the mix shall be designed with these ingredients as well. The specifications mentioned herein below shall be followed for design Mix Concrete.

3.7 **DESIGN MIX CONCRETE**:

The term machine batched, machine mixed and machine vibrated design mix cement concrete used in the document shall mean the concrete produced in fully automatic concrete batching & mixing plant, placed in position by the concrete pump and vibrated by surface vibrator/ needle vibrator/ plate vibrator, as the case may be to achieve the required strength and durability.

The contractor shall be required to submit two separate design mix of concrete with and without using plasticizers, separately. The decision of the engineer-in-charge to specify the design mix of concrete based on above shall be final.

3.7.1 Coarse aggregate: As per CPWD Specifications

3.7.2 Fine Aggregate: As per CPWD Specifications.

3.7.3 Water: It shall conform to requirements laid down in IS:456 : 2000 and CPWD specifications.

3.7.4 Cement: Cement arranged by the contractor will be PPC (in bags) conforming to IS: 1489-Part-I. If for any reasons, cement other than that specified in this para for example OPC of grade 43 or higher grade is brought to site by contractor, the issue, payments rate as well as the quantity to be used in the design mix concrete will remain unchanged. Slump: Design slump should be clearly specified in the mix design.

3.7.5 Admixtures shall not be used without approval of Engineer-in-charge. Wherever required, admixtures of approved quality shall be mixed with concrete as specified. The admixtures shall conform to IS: 9103. The chlorides content in the admixture shall satisfy the requirements of BS: 5075. The total amount of chlorides admixture mixed concrete shall also satisfy the requirements of IS: 456. The contractor shall not be paid anything extra for admixture required for achieving desired workability without any change in specified water cement ratio for RCC/CC work.

3.7.6 Grade of Concrete : The compressive strength of various grades of concrete shall to be given as below:

	Grade designation	Compressive strength on 15 cm cubes min. 7 days (N/mm2)	Specified characteristic compressive strength at 28 days (N/mm2)	Maximum water cement ratio
I	M 25	As per design	25	0.50
II	M 30	As per design	30	0.45
III	M 35	As per design	35	0.45
IV	M 40	As per design	40	0.40

Note:

(i) In the designation of a concrete mix letter M refers to the mix and number to the specified characteristic compressive strength of 15 cm x 15 cm x 15 cm – cube 28 days expressed in N/mm2

(ii) The cement content in concrete for structural members for all RCC and PSC members shall be governed by design requirement and as per codal provisions.

(iii) Design slump has to be constantly monitored and maintained during placing of concrete through slump tests carried out as per CPWD specification 2019 Vol. 1 for Mortar, Concrete and RCC works, and records maintained accordingly.

3.7.7 The concrete mix design/laboratory tests with and without admixture shall be got done by contractor at his own cost and will be carried out by the contractor through one of the following laboratory/Test houses:

(i) RTC, Kolkata

(ii) Approved Lab/Govt. Engineering Institutions as directed by the Engineer-in-charge.

The various ingredients for mix design / laboratory tests shall be sent to the test houses through the Engineer-in-Charge and the samples of such aggregate & cement shall be preserved at site by the department

3.7.8 The contractor shall submit the mix design report from any of above approved laboratory for approval of Engineer-in-Charge with in 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the mix design is approved by the Engineer-in-charge. In case of white portland cement and the likely use of admixtures in concrete with PPC/white portland cement the contractor shall design and test the concrete mix by using trial mixes with white cement and/or admixtures also for which nothing extra shall be payable.

3.7.9 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mix design report conducted at laboratory established at site shall be submitted by the contractor as per the direction of the Engineer-in-Charge

3.8 APPROVAL OF DESIGN MIX

The mix design for a specified grade of concrete shall be done for a target mean compressive strength Tck=Fck+1.65 s.

Where Fck = Characteristic compressive strength of 28 days

s = Standard deviation which depends on degree of quality control

The degree of quality control for this work is "good" for which the standard deviation (s) obtained for different grades of concrete shall be as bellows:

Grade of Concrete	For "Good" quality of control
M 25	4.00
M 30	5.00
M 35	5.00
M 40	5.00

Of the six specimen of each set three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength to be attained at 28 days

3.9 All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the contractor.

3.10 The batching plant shall conform to IS:4925. It shall have the facilities of presetting the quantity to be weighed with automatic cutoff when the same is achieved. Concreting at places may have to be resorted to through concrete pump for which nothing extra shall be paid.

3.11 All other operations in concreting work like Mixing, Slump, Laying Placing of concrete, compaction curing etc. not mentioned in this particular specification for Design Mix of concrete shall be as per CPWD specification.

3.12 WORK STRENGTH TEST

TEST SPECIMEN AND SAMPLE STRENGTH

Three test specimens shall be made from each sample for testing at 28 days. Additional cubes may be required for various purpose such as to determine the strength of concrete at 7 days or for any other purpose.

The test strength of the sample shall be the average of the strength of three specimens. The individual variation should not be more than +15% of the average. If more, the test results of the sample are invalid.

TEST RESULTS OF SAMPLE

The test result of the sample shall be the average of the strength of three specimen. The individual variation shall not be more than 15 percent of the average. If more the test results of the sample are invalid. 90% of the total test shall be done at the laboratory established at site by contractor and remaining 10% in the laboratory of CPWD or in any other laboratory as directed by the Engineer-in-Charge.

Lot size

The minimum frequency of sampling of concrete of each grade shall be according to the following:-

Quantity of concrete in the work cubic metre per day	Number of samples.
1-5	1
6-15	2
16-30	3
31-50	4
51 & above	4 + one additional sample for additional 50 cubic metre or part thereof.

Note: At least one sample shall be taken from each shift.

3.13 STANDARDS OF ACCEPTANCE

Compressive Strength: When both the following conditions are met, the concrete complies with the specified compressive strength:

a) The mean strength determined from any group of four consecutive samples should exceed the specified characteristic compressive strength by at least 3 MPa.
b) Strength of any sample is not less than the specified characteristic compressive strength minus 3 MPa.

(i) Concrete of each grade shall be assessed separately
(ii) Concrete is liable to be rejected if it is porous or honeycombed, its placing has been interrupted without providing a proper construction joint the reinforcement has been displaced beyond the tolerances specified, or construction tolerances have not been met. However the hardened concrete may be accepted after carrying out suitable remedial measures to the satisfaction of the Engineer-in-Charge for which nothing extra is payable to the contractor

3.14 Only MS centering/shuttering and scaffolding material unless & otherwise specified shall be used for all RCC. Work to give an even finish of concrete surface. However marine ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor on approval by the Engineer-in-Charge.

3.15 Nothing extra shall be paid for the centering and shuttering circular in shape wherever the form work is having a mean radius exceeding 6 m in plan

3.16 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications the level of top surface of RCC shall be accordingly adjusted at the time, of its centering shuttering and casting for which nothing extra shall be paid to the contractor.

3.17 Measurement – As per CPWD specifications.

3.18 Tolerances – As per CPWD specifications

3.19 Rate

3.19.1 The rate includes the cost of materials and labour involved in all the operations described above except for the cost of centering, shuttering & reinforcement which will be paid separately

3.20 In case of actual average compressive strength being less than specified strength which shall be governed by para "Standard of Acceptance" as above the rate payable shall be worked out accordingly on prorata basis.

3.21 In case of rejection of concrete on account of unacceptable compressive strength governed by para "Standard of Acceptance" as above the work for which samples have failed shall be redone at the cost of contractors. However, the Engineer-in-

Charge may order for additional test (like cutting cores, ultrasonic pulse velocity test, load tests on structure or part of structure etc.) to be carried out at the cost of contractor to ascertain if the portion of structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests. The contractor shall take remedial measures necessary to retain the structure as approved by the Engineer-in-Charge without any extra cost. However, for payment the basis of rate payable to contractor shall be governed by the 28 days cube test results and reduced rates shall be regulated in accordance with para 3.24.2.

3.22 Necessary arrangements shall be made for field tests and all required equipment's shall be arrange by establishing field lab by the Agency for mandatory tests of the materials as specified in CPWD specifications or as per direction of Engineer-in-Charge no extra shall be paid on this account.

4 RCC WORK (ORDINARY)

4.1 Water cement ratio for ordinary RCC work shall not be more than 0.50. Contractor shall use concrete mixture of proper design and arrangement for measuring water for mixing of concrete.

4.2 In respect of all projected slabs at all levels including cantilever canopy the payment for the RCC work shall be made under the item RCC slabs. The payment for shuttering at the edges shall be made under item of centering and shuttering of RCC slabs. Nothing extra shall be paid for the side shuttering at the edge of these projected balconies and projected verandah slabs.

5 PRE-CAST RCC WORK

5.1 Pre-cast reinforced concrete units shall be of grade or mix as specified. Provision shall be made in the mould to accommodate fixing devices such as hooks, flats etc. And forming of notches and holes. Each unit shall be cast in one operation. A sample of the unit shall be got approved from Engineer-in-Charge before taking up the work.

5.2 Pre-cast units shall be clearly marked to indicate the top of member and its locations.

5.3 Pre-cast units shall be stored, transported and placed in position in such a manner that these are not damaged.

5.4 The compaction of the concrete shall be done by vibrating table or external vibrator, as approved by Engineer-in-Charge. The rate quoted for the item shall include the element for framework and mechanical vibration.

5.5 Rate for item includes cost of all materials labour and all operations involved cost of MS frames lugs including their welding, lifting hooks is also included.

6 REINFORCEMENT:

The rate of reinforcement in RCC work includes all operations including straightening cutting, welding, binding with annealed steel wire or welding and placing in position at all the floors with all leads and lift complete.

7 MASONARY WORK

The Masonry work shall be carried out with Autoclaved Aerated Cement Blocks (AAC Blocks) conforming to IS- 2245 (Part III) and as approved by Engineer-in-charge.

The rates shall also include for leaving chases/notches for dowels/cramps for all kinds of come over Masonry work. All the work done upto plinth level will be measured and paid as foundation work upto plinth level. Nothing extra will be paid for higher plinth level.

8 SANITARY INSTALLATIONS, WATER SUPPLY AND DRAINAGE

8.1 The work of water supply and sanitary installations shall be got executed by the agency as approved by Engineer-in-Charge.

(i) The entire plumbing drawing and sanitary installation drawing/ details shall be submitted by the contractor and got approved by the Engineer-in-Charge before the execution.

(ii) The entire responsibility for the quality of work will however rest with the building contractor only.

8.2 The work of water supply, internal sanitary installations and drainage etc. shall be carried out as per the bylaws of the Municipal Corporation or any other local body and the contractor shall produce necessary completion certificates from such authority after completion of work.

8.3 All water tanks, taps, sanitary, water supply and drainage pipes fittings and accessories etc. shall conform to the bylaws and specifications of the Municipal Body/Corporation where CPWD specifications are not available.

8.4 The contractor shall engage licensed plumbers for the work and the materials (fixtures/fittings) tested by the local Municipal Body/Corporation wherever required at his own cost. Nothing extra shall be paid/reimbursed for the same.

8.5 The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted by making his own arrangements for water supply, electricity etc. and nothing extra whatsoever shall be payable for the same.

8.6 The work in general shall be carried out as per CPWD specifications. Rate includes all materials, labour and all the operations mentioned in the respective items unless and otherwise specifically mentioned.

8.7 Vitreous China sanitary fittings etc.shall be of approved make mentioned in the tender document and as per sample approved by the Engineer-in-Charge.

8.8 CP Brass pillar taps, bib cocks, flush valves angle etc. shall be of approved make mentioned in the tender document and as per sample approved by the Engineer-in-Charge. CP Brass bib cock/stop cock shall be fixed with heavy duty CP flange.

8.9 SCI, CI Pipes and its fittings shall conform to the BIS specification wherever required and making good the same for which nothing extra shall be paid.

8.10 The tendered rates shall include the cost of cutting holes in walls, floors, RCC slabs etc. Wherever required and making good the same for which nothing extra shall be paid.

8.11 The SCI pipe wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall paid for on this account.

8.12 The contractor shall give a satisfactory performance test of the entire installation (s) before the work is finally accepted and nothing extra shall be payable to the contractor on this account.

8.13 Sensor operated flush valves shall be of make "AOS" or "ASRA" or equivalent.

8.14 P or S and floor traps (long arm upto 900 mm length or more) in WCs shall be of deep seal type of RIF make or equivalent and shall have a minimum water seal of 75 mm. Floor traps (long arm upto 900 mm length or more) shall have a minimum water seal of 50 mm.

8.15 The contractor shall be responsible for all the protection of sanitary, water supply fittings and fixtures against pilferage and breakage during the period of installation until the completion / handing over of the work.

8.16 The pig lead for caulking of joints of SCI pipes shall be arranged by the contractor and used as per the theoretical consumption for SCI pipes of sizes 100mm, 75mm, 50mm at 0.98kg., 0.88kg. and 0.77kg. per joint respectively. Over and above the theoretical quantities of lead as worked out a variation of 5% shall be allowed for wastage etc. However, in case of variation on lower side, the quantity of pig lead less used shall be recovered from the contractor at market rate to be determined by the Engineer-in-Charge whose decision in the matter shall be final.

8.17 The contractor shall submit completion plans for water supply internal sanitary installations and building drainage work within thirty days of the date of completion. These plans are to be submitted on drawings prepared preferably through computers (1 original copy + 3 photocopies) on suitable scales to show the general arrangement and desired details in case the contractor fails to submit the completion plans as aforesaid security deposit shall not be released.

9 WATER PROOFING TREATMENT

The contractor shall associate himself with the specialized firm, to be approved by the Engineer-in-charge in writing, for water proofing treatment for basement/lower ground floor, underground tank and on roofs. Guarantee in the prescribed proforma

attached with tender document shall be given by the specialized firm, for a period of ten years from the date after the maintenance period prescribed in the contract, which shall be counter signed by the contractor as token of overall responsibility. **In addition, 10% (ten percent) of the cost of water proofing items shall be retained as guarantee to watch the performance of the work done. This is in addition to the security deposit under clause 1A of applicable GCC.** However, half of this retained amount will be released after five years, if the performance of the work done is found satisfactory. If, however any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of intimation. In case it is not attended to, the same will be got done by another agency at the risk and cost of the contractor. This guarantee deposit can however be released in full if a bank guarantee of equivalent amount for 10 years is produced and deposited with the department.

10 Others

A. Glazing in UPVC Sliding/Fixed Windows/ Doors

The work shall be executed as per CPWD Specifications 2019, the Clear float glass or toughened/frosted glass panes as per architectural drawings. Standard thicknesses typically range from 6.0 mm, to 8.0 mm (or double-glazed insulating units up to 24mm/30mm) depending on structural or thermal requirements.

B. Providing and fixing C.P. Brass two way bib cock.

The CP Brass 2 in 1 bib cock shall be confirming to IS 8931. The body shall be of chromium plated copper alloy and internal and external surfaces shall be clean, smooth and free from sand. The 15mm nominal bore shall be designated by the nominal bore of the pipe outlet to which the bib cocks are normally fitted. The dimensions of body for Bib Cock shall be as per manufacture specification. Each 2 in 1 bib cock shall be legibly marked with the Manufacture's name and trade mark.

SPECIAL CONDITIONS

1. The contractor shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.

2. The contractor shall not store/dump construction material or debris on metalled road.

3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and / or other similar material to ensure that no construction material dust fly outside the plot area.

4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes / or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air / contaminate air.

5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.

6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.

7. The contractor shall ensure that C&D waste is transported to the C & D Waste site only and due record shall be maintained by the contractor.

8. The contractor shall compulsorily use of wet jet in grinding and stone cutting.

9. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.

10. The contractor shall carry out on-Road –Inspection for black smoked generating machinery. The contractor shall use cleaner fuel.

11. The agency shall follow the SoPs issued by CPWD and other orders & Guidelines issued by Various Governments (Govt of India and/or Govt of Sikkim and/or any other state Govt. affecting this work and /or Dist. Administration or Local Govt.). The quoted rates shall inclusive of all such required measures and materials like Soaps, Detergents, Sanitizers, Disinfectants, Masks, Gloves and other personal protection equipment's to contain COVID-19 and nothing extra shall be paid.

12. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.

13. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paves areas.

14. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.

15. Temporary Water, Electricity & Telephone Connections:

15.1.1 The contractor shall make his own arrangements for water including boring of tube wells etc. if necessary and for Electricity by obtaining electric connections and by providing diesel generators of adequate capacity, if required and make necessary payments directly to the State Govt. departments concerned. Necessary approval shall be taken by the contractor from the ground water department for boring of tube wells, if required. Nothing extra shall be paid on these accounts. Contractor shall get the water tested from laboratory approved by the Engineer-in-charge at regular interval as per the CPWD Specifications 2019 with regard to its suitability and conforming to the relevant IS Code. The contractor shall obtain written approval from the Engineer-in-Charge before he proceeds by using the same for execution of work. The contractor shall arrange Municipal water at his own cost or if he intends to use tube well water, he will have to install a RO plant to treat the water, if required, as the tube well may not be suitable for construction and nothing extra shall be paid to the contractor on this account. Water charges shall not be recovered in case arrangement of water is made at his own by the contractor. All expenses towards collection of samples, packing, transportation except testing charges etc. shall be borne by the contractor. The contractor shall obtain environmental and pollution clearance for the diesel generators. Nothing extra shall be paid on this account.

15.1.2 The Contractor shall arrange electricity at his own cost for testing of the various electrical installations as directed by Engineer-in-Charge and for the consumption by the contractor for executing the work. Also all the water required for testing various electrical installations and also testing water supply, sanitary and drainage lines, water proofing of underground sump, overhead tanks, water proofing treatment etc. shall be arranged by the contractor at his own cost. Nothing extra shall be payable on this account.

15.1.3 Arrangement of temporary telephone connection, water and electricity required by Contractor, shall be made by him at his own cost and also necessary permissions shall be obtained by him directly from concerned authorities, under intimation to the Department. Also, all initial cost and running charges, and security deposit, if any, in this regard shall be borne by him. The Contractor shall abide by all the rules/ bye laws applicable in this regard and he shall be solely responsible for any penalty on

account of violation of any of the rules / byelaws in this regard. Nothing extra shall be payable on this account.

15.1.4 The Contractor shall be responsible for maintenance and watch and ward of the complete installation and water / electricity meter and shall also be responsible for any pilferage, theft, damage, penalty etc. in this regard. The Contractor shall indemnify the Department against any claim arising out of pilferage, theft, damage, penalty etc. whatsoever on this account. Security deposit for the work shall be released only after No Dues Certificates are obtained from the local Authorities from whom temporary electric/ water / telephone connection have been obtained by the Contractor. Nothing extra shall be payable on this account.

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

16. Architectural and structural Drawings:

16.1.1 Although architectural drawings are either uploaded in the web along with NIT for reference to the bidder or made available in the office of Executive Engineer, **Gangtok Central Division, C.P.W.D., Gangtok**, the main working & detailed architectural drawings shall be issued as per details given in Schedule 'F'. It is the duty of the contractor to intimate the requirement of drawings reasonably well in advance and no hindrance shall be allowed on this account.

16.1.2 The work shall be carried out in accordance with the Architectural drawings to be issued from time to time, by the Engineer-in-Charge and structural drawings approved by Engineer-in-charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work, nomenclature of items, specifications etc. and satisfy himself that the information available there from is complete and unambiguous. The figures & the written dimensions of the drawing shall supersede the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-Charge for immediate decision before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and/ or incomplete information and no claim, whatsoever, shall be entertained on this account. The delay caused on account of non-timely action by the contractor in resolution of the differences, whatsoever, shall not be considered as valid ground for extension of time unless otherwise accepted by Engineer-In-Charge.

16.1.3 The information and site data shown in the drawings and mentioned herein and also elsewhere in the tender documents are being furnished for general information and guidance only. The department shall not bear responsibility for lack of such knowledge and also the consequences thereof. The Engineer-in-charge in no case shall be held responsible for the accuracy thereof or any interpretation/ or conclusions drawn there from by the contractor.

17. **FACILITIES FOR THE DEPARTMENT: -**

A) The Contractor shall provide, construct and maintain at all times during execution and till the completion of work, a temporary site office with adequate electric light fittings, A.C., fans, electric/ power points, switches etc for use of the Engineer-in-Charge and his authorized representatives. Area of such office shall be approximately 30 sqm and shall be provided with suitable partitions, doors, windows, locking arrangement etc. for exclusive use of the Department. Adequate toilet facilities (1 no. E.W.C and 1 nos. urinals) connected to a temporary septic tank / soak pit, drinking water purifier and water cooler shall also be provided exclusively for the use by the Department. All the water and electricity charges (for running these fittings and equipments as per the requirement including for the equipments provided by the Department), shall be borne by the contractor. The entire site office and its surroundings shall be maintained in a neat and clean condition by the Contractor for the entire duration of the construction. The premises / facilities provided by the contractor shall be owned and thus demolished / dismantled / disconnected and material carted away by him at its own cost after the completion of work or as directed by Engineer-in-Charge. The rates quoted by the Contractor shall be inclusive of providing and maintaining such facilities and nothing extra shall be payable on this account. The contractor shall make arrangement for Helmets and safety shoes (meant of construction work at sites) for all field staff of the department during the entire period of construction for safety reasons. One helmet and two pairs of shoes per staff member (maximum ten members) of the departments per year shall be arranged by the contractor at its own cost.

B) The Contractor shall arrange for one number computer or laptop along with printer, necessary peripherals and including broadband connection at the disposal of Engineer-in-charge. The computer shall be provided with MS-word, Excel, Power-point, Auto CAD. Nothing extra shall be paid on this account.

24. **Guarantee bonds for various items:**

The contractor shall be duly responsible for and shall guarantee proper design and performance of the following items for a period of 10 years from the date of completion of the work: -

1.	All water proofing work (except waterproofing on masonry plaster)	Ten percent of the cost of water proofing work	The amount so withheld would be released after 10 (Ten) years from the date of completion of the entire work under the agreement, if the performance of the work done is found satisfactory. If any defect / leakage is noticed during the guarantee period, it shall be rectified by the contractor within seven days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another Contractor at the risk and cost of contractor. However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer-in-charge, if so, decided by the Engineer-in-charge. The Security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.
2.	Internal water supply and Internal sanitary installations except sanitary fittings*. (*manufacturer warranty for sanitary fittings shall be submitted to Engineer-in-charge)	Five percent of the cost of work	

CPWD

LIST OF MINIMUM MACHINERY, TOOLS & PLANTS TO BE DEPLOYED BY THE CONTRACTOR AT SITE AS & WHEN REQUIRED

Sl. No.	Name of Equipment	Numbers
1	Excavators (various sizes)	1 No.
	Equipment for hoisting & lifting	
1	Tower Crane or Builder's hoist (Desirable)	As and when required
	Equipment for Concrete work	
1	Fully-Automatic batching mix plant of 5 to 10 cum capacity per hour or as assessed by Engineer-in-Charge	1 No.
2	Mini hot mix plant	Nil
3	Bitumen Boiler	Nil
4	Concrete pump	2 Nos.
5	Concrete mixer (diesel) with hopper	1 No.
6	Concrete mixer (electrical)	Nil
7	Needle vibrator (electrical)	3 Nos.
8	Needle vibrator (petrol)	2 Nos.
9	Table vibrator (elect./ petrol) (Desirable)	Nil
10	Pin Vibrator	Nil
11	Surface Vibrator	2 Nos.
12	Sprayer	Nil
13	Vibratory compacter	Nil
14	Vibratory roller 8 to 10 tonne	As and when required
15	Screed board vibrator	1 No.
	Equipment for Building work	
1	Coaltar Sprayer	Nil
2	Emulsion Distributer	Nil
3	Road sweeper machine	Nil
4	Air compressor	Nil
5	Bar bending Machine	2 Nos.
6	Bar cutting machine	2 Nos.
7	Drilling machine	1 No.
8	Welding machine	1 No.
9	Cube testing machines (Electrically Operated)	1 No.
10	M.S. pipes	100% shuttering material for all foundation, beam, column and one roof at a
11	Steel shuttering	
12	Steel scaffolding	

Addition: NIL *Correction: NIL*
Overwriting: NIL *Deletion: NIL* *AE(P)/SC* *AE(E)(P)/SC* *EE(Gangtok)* *EE(E), Siliguri*

			time etc. required
13	Grinding/polishing machines		1 No.
	Equipment for transportation		
1	Road Roller 8 – 12tonnecapacity		1 No.
2	Diesel Trucks		1 No.
3	Auto van		1 No.
	Pneumatic equipment		
1	Air compressors (diesel)		As and when required
	Dewatering equipment		
1	Pump (diesel)		1 No.
	Power equipment		
1	Diesel Generator 100 KVA/125 KVA		1 No.
2	Wet Mix Plant 60 TPH		1 No.
3	Water Tanker 5 to 6 KL capacity		1 No.
4	Front end loader 1 cum bucket capacity (incl POL)		1 No.
5	Tipper-5 Cum/10 tonnes		1 No.
6	Motor Grader 3.35 metre blade		1 No.
	Testing Kits		
1	Construction Water Testing Kits		1 No.

The list is not exhaustive. Any other machinery / equipment / Tools and plants as required for the proper execution of work required as per agreement / specification laid down in the agreement to be provided by contractor at no extra cost.

CPWD

LIST SHOWING PREFERRED BRANDS/ MANUFACTURERS/MAKES

NOTE: - 1) A List of Preferred Brand Names of Various Materials / Products are shown below for usage in execution of Work. However, Approved equivalent material of any other Specialized Companies / Firms may also be used, in case it is established that the Brands Specified below are not available in the market or in other unavoidable circumstances and subject to Approval of the alternate Brand by the Superintending Engineer, CPWD, Siliguri. However, in case, alternate brand is allowed to be used, as stated above, it will be subject to cost adjustment. If such approved material of alternate brand is cheaper than the model/ brand already mentioned in item/approved make list, the price adjustment will be made based on the difference in market rates. In case, the rate of approved material of alternate brand is more than the model/ brand already mentioned in item/approved make list, no extra payment will be made on this account.

2) It must be ensured, in general, that all materials to be used in the works shall bear BIS Certification mark. In cases where for a particular material/product, BIS Certification Mark is not available, then the material proposed to be procured can be used subject to the condition that it should conform to CPWD Specifications and relevant BIS codes. In such cases written approval of the Engineer-in -Charge shall be obtained before use of such material in their works.

3) The list given below does not absolve the Executing Agency from their responsibility for using these products. It is only after, they are satisfied about the quality and performance, the products shall be used. To achieve this, proper check on the quality of the product, actually to be used, should be exercised.

4) The Superintending Engineer, Siliguri, CPWD, reserves the right to add or delete any materials and brands in the list of approved makes.

Sl.No	Material Description	Brand	Preferred Material / Make
1	Portland Puzzalona Cement	ACC	ACC cements Ltd
		Ultra Tech	Ultra Tech Cement Ltd.
		Jaypee Cement.	Jaypee Cement Ltd.
		J.K.Cement	J.K. Cement Pvt. Ltd.
		Ambuja Cement	Ambuja Cements Ltd.
2	Damp Proof material	Dr. Fixit	Pidilite Industries
		Fosroc	Fosroc Chemicals India Pvt. Ltd.
		SIKA	Sika India Pvt. Ltd
		PIDILITE	Pidilite Industries Ltd.
		BASF	BASF India Ltd
		Dr. Fixit	Pidilite Industries
3	TMT/ Low Alloy Reinforcement Steel bars	SAIL	Steel Authoirty of India Ltd.
		TISCO	TATA STEEL Ltd
		VIZAG	Rastriya Ispat Nigam Ltd.
		JSW	JSW Steel Ltd
		JSPL	JINDAL STEEL & POWER Ltd

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

Sl.No	Material Description	Brand	Preferred Material / Make
4	Plasticiser & Super Plasticiser	Plastiment, Sikament	Sika Inida Pvt Ltd.,
		Conplast SP430	FOSROC India
		BASF	BASF India Ltd
		CICO	CICO Industries
6	Adhesive	Sika	Sika India Pvt. Ltd
		Fevicol	Pidilite Industries
		CICO	CICO Industries
		Proofex of adhesive	FOSROC India Ltd
6	Wooden Flush door shutters	Greenlam	Greenlam Ply Industries Ltd.
		Kitply	Kitply Industries Ltd.
		DuroFlushdoors	Duro Ply Industries Ltd.
		Kenwood	Kenwood Ply & Board
		Century	Century Flush Doors
		Archidply	Archid Flush Door
7	Water Proof Plywood, Commercial ply, Fire retardant ply and Block boards	Green Ply	Green ply Industries Ltd.
		Kitply	Kitply Industries Ltd.
		Duroply	Duro Ply Industries Ltd.
		Archidply	Archid ply industries Ltd.
		Century ply	Century Flush Doors
8	Laminate	Green Lam	Green lam Industries Ltd.
		Centuary	Centuray laminates
		Merino	Merino laminates
		Archidply	Archid ply industries Ltd.
		Kitmica	Kitply Industries Ltd.
		VIRGO	VIRGO
9	Prelaminted particle board Exterior Grade	Novapan	GVK NovapanIndustries Pvt Ltd.,
		Merino	Marino laminates
		Kitlam	Kit PlyIndustires Ltd,
		Archid ply	Archid ply industries Ltd.
		Centuary	Centuary MDF
		Green Lam	Green lam Industries Ltd.
		Dorset	Dorset Industries Pvt Ltd
10	Hydraulic door closers/ Floor springs	Godrej	Godrej locking solution & systems
		Hardwyn	Hardwyn hardware
		Dorma	Dorma India Pvt Ltd.
		Dorset	Dorset Industries Pvt Ltd
11	Locks & Latches	Dorset	Dorset Industries Pvt Ltd
		Godrej	Godrej locking solutions& systems
		Hafele	Hafele India Pvt. Ltd
		Harrison	Harrison locks

Sl.No	Material Description	Brand	Preferred Material / Make
		Plaza	Bharat lock House
		Link	Link Locks
12	Float Glass	Asahi	Asahi India glass .Ltd.
		Modiguard	Gujarat Guardian Ltd.
		Saint Gobain,	Saint Gobain India Pvt .Ltd. ,
13	Structural Steel	SAIL	SAIL
		TISCO	TATA STEEL
		VIZAG	RINL
		JSW	JSW
14	M.S. Pipe, Tubes	TISCO	TATA STEEL
		JINDAL	JSW
		Salem	SAIL
		RPMF	RPMF
		Utkarsh	Utkarsh India Limited
15	Welding rods	ESAB	ESAB India Pvt. Ltd
		TATA	TATA STEEL
16	Glazed Vitrified tiles	NITCO	NITCO Ltd
		Orient	Orientbell Tiles
		Kajaria	Kajaria Ceramic Ltd
		Somany	Somany Ceramic Ltd
		Jhonson	Prism Jhonson Ltd
		AGL	Asian Granite India Ltd
		RAK	
17	Glazed Ceramic tiles (Also wall tiles)	NITCO	NITCO Ltd
		Kajaria	Kajaria Ceramic Ltd
		Somany	Somany Ceramic Ltd
		RAK	
		Jhonson	Prism Jhonson Ltd
		AGL	Asian Granite India Ltd
24	UPVC Pipes and fittings (Rain water pipes)	Prince	Prince pipes and fittings Ltd.
		Finolex	Finoles Industries Ltd.
		Astral	Astral polytechnik Ltd.
		Ashirwad	Ashirwad PVC Pipes
		Lloyd Insulation	Lloyd Insulation (India) Ltd
		PRAYAG	Prayag Polymers Pvt. Ltd.
19	Synthetic enamel Paint	Dulux	ICI dulux Ltd
		Nerolac	NerolacPaints Ltd
		Berger	Berger Paints
		Asian	Asian paint
20	Pink primer	Wood primer	Asian paint
		Dulux	ICI dulux

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

Sl.No	Material Description	Brand	Preferred Material / Make
		Nerolac	NerolacKansiaNerolac Paints Ltd.,
		Berger	Berger Paints
21	Red Oxide Zinc Chromate primer	Dulux	ICI dulux
		Nerolac	Nerolac
		Berger	Berger Paints
		Asian	Asian paint
22	Acrylic Distemper	Dulux (Maxilite)	Dulux
		Tractor Aqalock	Asian paint
		mGPolyplast	Nerolac
		Berger (Bisom)	Berger Paints
23	Acrylic emulsion	Premium emulsion	Asian Paint
		Dulux (Super Cover)	ICI Dulux
		Nerolac (Beauty Gold)	Nerolac
		Berger (BISM)	Berger Paints
		Asian exterial	Asian paint
24	Water Proof Cement paint	Berger	Berger Paints
		Surfa	Surfacoats (India) Pvt. Ltd.
		ICI DULUX	ICI DULUX
		CemColour	Snowcem Paints
		Asian	Asian paint
25	Acrylic smooth exterior paint	Dulux	ICI dulux
		Apex	Asian Paints
		Nerolac	Nerolac
		Berger	Berger
		ULTIMA	Asian paint
26	Premium Acrylic smooth exterior paint with silicon additives	Dulux	ICI dulux
		Nerolac	Nerolac
		Asian	Asian paint
		Berger	Berger
27	Cement based wall putty	Birla wall care	Birla Cements Ltd.,
		Asian paints	Asian paints Ltd
		J.K.wall putty	J.K. Cement Ltd.
28	Anticorrosive bitumastic paint	Shalimar	Shalimar paints India Ltd.
		IS 158 bituminous black	Asian Paints
		Asian paints	Asian paints
29	Cement Primer	JK Primaxx	JK Cement Ltd.
		Berger	Berger paints India Ltd.
		Asian epoxy	Asian paints
		Nerolac	Nerolac
		ICI Dulux	ICI Dulux
30	Epoxy Tile Joint Grouts	Fosroc	Fosroc India

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

Sl.No	Material Description	Brand	Preferred Material / Make
		Laticrete	MYK Laticrete India
		Ardex Endura	Ardex Endura India Pvt. Ltd
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Dow corning	Dow corning India
31	Interlocking Concrete Paver Blocks	As approved by Engineer-in-charge	
32	Mirrors	Saint Gobain	Saint Gobain Glass India Ltd.,
		AIS mirror	Asahi India glass Ltd,
		Atul	Atul glass Industries Ltd.,
		Hindware	HSIL Ltd,
		SHAKTI	M/S Shakti Enterprises
		PRAYAG	Prayag Polymers Pvt. Ltd.
33	Vitreous Commodes/ Washbasin	Roca	ROCA Bath room products
		Parryware	ROCA Bath Pvt. Ltd.,
		Kohler	Kohler world wide
		CERA	CERA Sanitaryware Ltd.,
		Jaquar	Jaquar Group
		Parryware	ROCA Bath Pvt. Ltd.,
		Hindware	Hindware
34	Flushing Cistern	Kohler	Kohler
		Hindware	HSIL Ltd,
		CERA	CERA Sanitaryware Ltd.,
		Jaquar	Jaquar Group
		Parryware	Parryware
		Hindware	Hindware
		Supreme	SupermeIndustires Ltd.
		SHAKTI	M/S Shakti Enterprises
		PRAYAG	Prayag Polymers Pvt. Ltd.
35	Stainless Steel Kitchen sink	Jindal	Centuarypolytech
		Nilkanth	Nilkant
		Nirali	Jyoti (India) matel Industries Pvt Ltd.
		SHAKTI	M/S Shakti Enterprises
		Hindware	HSIL Ltd
		PRAYAG	Prayag Polymers Pvt. Ltd.
36	Centrifugally Caste (Spun) Iron Soil Pipes	SKF brand	SKF Industries
		HEPCO	Hepco
		Bengal Iron Corporation	Bengal Iron Corporation
		Neco	JayaswalNeco Ltd.
		RPMF	Raj Pattern Makers and Founders

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

Sl.No	Material Description	Brand	Preferred Material / Make
			Pvt. Ltd.
37	G I Pipes	Tata	Tata
		Jindal	Jindal Pipes Ltd.,
		UTKARSH	UTKARSH
38	G I Pipe fittings	Unik	Unikmalleables
		Zoloto	Zoloto Industries
		Tata	Tata
		Jindal	Jindal
39	Water supply Valves	Leader	leader valves Ltd.,
		ARCO	Arco valves Pvt. Ltd.,
		Nanda	Nanda Miller company
		Zoloto	Zoloto Industries
		Supreme	Supreme Industries Ltd.
40	PVC / HDPE water storage tanks	Supreme	Supreme Industries Ltd.
		Sintex	Sintex Industries
		PRAYAG	Prayag Polymers Pvt. Ltd.
41	DI Pipes	Jindal	Jindal
		Tata Ductura	Tata Ductura
		Keshoram	Keshoram
		Electrosteel	Electrosteel
42	DI Fittings	Jindal	Jindal
		Tata Ductura	Tata Ductura
		Keshoram	Keshoram
43	Water supply fixtures like bibcock, Shower panels	Parryware	Roca bath room products Pvt. Ltd,
		Jaquar	Jaquar Group
		Prayag	Prayag
		MARC	MARK Showers
		HINDWare	HSIL Ltd.
44	CI double flanged non return valve	Fluidtech	Fluidtech
		Zolto	Zolota Industries
45	Gun metal Valves	Leader	Leader valves Ltd.
		Audco	L&T Valves
		PEARL	Precision Products
46	RCC Pipes	ISI Marked and as approved by Engineer-in-charge	
47	Aluminium doors/windows sections	Jindal	Jindal Aluminium Ltd.,
		Hindalco	Hindalco
48	Aluminium systems/ Anodisedaluminium fittings for doors/windows	Schueco	SchuecoIndia Pvt. Ltd.,
		Bhoruka	BhorukaAluminium Ltd.,
		Kawneer	Kawneer India
		Hardima	Hardima sales corporation

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

Sl.No	Material Description	Brand	Preferred Material / Make
		Everite	Everite Agencies
		Jyothi	Jyothi Industries
		Sigma	Sigma Corporation
		Earl Bihari	Earl Bihari Pvt. Ltd.
49	EPDM Gaskets	Roop	Roop Polymers Ltd.,
		Bohra	Bohra rubber Pvt Ltd.,
		Hanu	Hanu Industries
		Amee Rubber	Amee Rubber Industries Pvt Ltd.
		Sree Gaurav	Sree Gaurav Rubber products
50	Masking Tapes	Sun	Sun
		Wonder polymer	Wonder Tape Industries
		Roop	Roop Polymers Ltd.
		Fosroc	Fosroc India
51	Water proofing compound	Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Sika	Sika India
		Fosroc	Fosroc India
		Dr. Fixit	PidiliteIndustires
		Accoproof	ACC cements Ltd.,
		BASF	BASF India Ltd.,
52	CI & DI manhole cover & gratings	RPMF	Raj Pattern Makers and Founders Pvt. Ltd.
53	Aerated Autoclaved Concrete Block(AAC Block)	Featherlite	FeatherliteBuildcon Pvt. Ltd.
		Wonderlite	Madan Mohan Indrustries
		KLAVETEK Or equivalent	Klavetek green Block & Tiles Pvt. Ltd.
54	C.P. Fittings	SHAKTI	M/S Shakti Enterprises
		PRAYAG	Prayag Polymers Pvt. Limited
55	PTMT Bath Assests	SHAKTI	M/S Shakti Enterprises
		PRAYAG	Prayag Polymers Pvt. Limited
56	Toilet Seat Cover	SHAKTI	M/S Shakti Enterprises
		Hindware	Hindware
		PRAYAG	Prayag Polymers Pvt. Ltd.
57	UPVC Doors & Windows	Fenesta	Fenesta
		Rajshree	Rajshree plastiwood
		Encraft Duroplast	Encraft Duroplast
58	Upvc/CPVC Pipe & Fittings	Supreme, Prince, PRAYAG or equivalent	Prayag Polymers Pvt. Ltd.
59	HDPE Pipe	PRAYAG or equivalent	Prayag Polymers Pvt. Ltd.
60	SWR Pipes & Fittings	PRAYAG or equivalent	Prayag Polymers Pvt. Ltd.
61	Aluminium Composite Panel (ACP)	Alucobond, Aludecor, Alstone,Virgo	

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

Sl.No	Material Description	Brand	Preferred Material / Make
62	High Pressure Laminates (HPL)	VIRGO or equivalent	M/s VIRGO Aluminium Lt.
63	ERW Pipes	UTKARSH	UTKARSH
		Jindal	Jindal
		TATA	TATA
64	WPC Doors & Windows	Rajshree, Century , Green	
65	PVC Doors & Windows	Rajshree or equivalent	Rajshree plastiwood
66	Steel windows & pressed steel door frames	Multiwyn, Ankur and ISI Marked or as approved by Engineer-in-charge	
67	Fire rated glass , frame & shutter	Saint Gobain, Plinkington, vetrotech, Amvor or equivalent	
68	Multiwall Polycarbonate sheet	Danpal, DPI or equivalent	
69	Hermetically Sealed Performance Glass, DGU	Saint gobain, Tata-Ashai, Pilkington	
70	Galvanized Steel Sheet	Jindal, Tata or equivalent	
71	False ceiling- calcium silicate board	Aerolite, Saint Gobain or equivalent	

Annexure-I

On non-judicial stamp paper of minimum Rs. 100

(Guarantee offered by Bank to CPWD in connection with the execution of contracts)
Form of Bank Guarantee for performance Guarantee/Security Deposit/Mobilization Advance

1. Whereas the Executive Engineer ..... (Name of division) ....., CPWD on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number ..... with ..... (Name and address of the contractor) ..... (hereinafter called "the Contractor") for execution of work .... (name of the work) .... The Government has further agreed to accept an irrevocable Bank Guarantee for Rs. ..... (Rupees .... only) valid upto ..... (date) ..... as Performance Guarantee / Security Deposit/ Mobilization Advance from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

2. We, ... (indicate the name of the bank) ..... (herein after referred to as "the Bank"), hereby undertake to pay to the Government an amount not exceeding Rs ..... (Rupees ..... only) on demand by the Government within 10 days of the demand.

3. We, ... (indicate the name of the Bank) ....., do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ..... (Rupees ..... only)

4. We, ... (indicate the name of the Bank) ....., further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the contractor shall have no claim against us for making such payment.

5. We, ... (indicate the name of the Bank) ....., further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear

or enforce any of the terms and conditions rerating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to

the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. We, ... (Indicate the name of the Bank) ....., further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

8. We, ... (Indicate the name of the Bank) ....., undertake not to revoke this guarantee except with the consent of the Government in writing.

9. This Bank Guarantee shall be valid up to ..... unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. ..... (Rupees ..... only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged. with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date .....

Witnesses:

1. Signature .....
   Name and address

Authorized signatory
Name
Designation
Staff code no.

2. Signature .....
   Name and address

Bank seal

Annexure-II

On non-judicial stamp paper of minimum Rs. 100

(Guarantee offered by Bank to CPWD in connection with the execution of contracts)
Form of Bank Guarantee for Earnest Money Deposit

1. Whereas the Executive Engineer ..... (Name of division) ....., CPWD on behalf of the President of India (hereinafter called "The Government") has invited bids under……(NIT Number)……dated……..for……(Name of the work)…….The government has further agreed to accept irrevocable Bank Guarantee for Rs. ……(Rupees……..Only)……..valid upto…(date)…….as **earnest money deposit** from……(Name and address of the contractor)……..(hereinafter called "The contractor") for compliance of his obligation in accordance with terms and conditions of the said NIT.

2. We, ... (indicate the name of the bank) ..... (herein after referred to as "the Bank"), hereby undertake to pay to the Government an amount not exceeding Rs ..... (Rupees ..... only) on demand by the Government within 10 days of the demand.

3. We, ... (indicate the name of the Bank) ....., do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ..... (Rupees ..... only)

4. We, ... (indicate the name of the Bank) ....., further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the contractor shall have no claim against us for making such payment.

5. We, ... (indicate the name of the Bank) ....., further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions rerating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension

being granted to the said Contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. We, ... (Indicate the name of the Bank) ....., further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

8. We, ... (Indicate the name of the Bank) ....., undertake not to revoke this guarantee except with the consent of the Government in writing.

9. This Bank Guarantee shall be valid up to ..... unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. ..... (Rupees ..... only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged. with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date .....

Witnesses:

1. Signature .....
   Name and address

Authorized signatory
Name
Designation
Staff code no.

2. Signature .....
   Name and address

Bank seal

Annexure-III

Receipt of deposition of EMD (Receipt No. …….. / date ……..)
1. **Name of work: Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.** 2. NIT No.: 29/EE/GCD/GTK/10/NIT/SE/SILIGURI/CPWD/2026-27 3. Estimated Cost: Rs.9,95,14,932/- 4. Amount of Earnest Money Deposit: Rs.19,90,299/- 5. Last date of submission of tender upto 3:00 pm on 04.09.2026
6. Name of contractor ……# 7. Form of EMD……# 8. Amount of EMD……# 9. Date of submission of EMD ……# Signature, Name and designation of EMD receiving officer (EE/AE(P)/AE/AAO) along with Office stamp (#To be filled by EMD receiving EE)

* The Executive Engineer receiving EMD in original form shall examine the EMD deposited by the tenderer and shall issue a receipt of deposition of earnest money to the agency in a given format uploaded by tender inviting EE. The receipt may be issued by the AE (P)/AE/AAO.

* The original EMD receiving Executive Engineer shall release the EMD after verification from the e-Nirmit portal website (https://etender.cpwd.gov.in or www.eprocure.gov.in,>tender free view> advance search> awarded tenders) that the particular contractor is not L-1 tenderer and work is awarded.

Annexure-IV

Appendix – XVI

Form of application by the contractor for seeking rescheduling of milestones

1. Name of contractor
2. Name of work as given in the agreement
3. Agreement No.
4. Estimated amount put tender
5. Date of commencement of work as per agreement
6. Period allowed for completion of work as per agreement
7. Date of completion stipulated in agreement
8. Rescheduling of milestones done previously

Milestone No. Already Rescheduled	**EE's Letter No. and date**	**Rescheduling of milestone done**	
		Original date	**Rescheduled Date**
(A) 1st Milestone			
(B) 2nd Milestone			
……..			

Rescheduling of milestone applied for :

Milestone No. for which Rescheduling is Applied	**Original / Rescheduled Date**	**Details and period of Hindrances**	**Comments of Executive Engineer**	**Proposed rescheduled Date of**
(A) 1st Milestone				
(B) 2nd Milestone				
……				

Submitted to the Sub Divisional Officer

Signature of Contractor

Date

Annexure-V

APPENDIX – XVII

Reference of Dispute and amount claimed for each dispute to the conciliator

[Refer Clause 25]

To The ADG/SDG
..... (Zone or Region)
.....
Subject: Reference of Dispute and amount claimed for each dispute to the conciliator for settlement of disputes relating to agreement No.....

Dear Sir,

In terms of clause 25 of the aforesaid agreement, particulars of which are given below, I/we hereby refer my/our dispute to you for settlement in your capacity as conciliator.

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

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

Yours faithfully,

.....

(Signature of applicant)

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

Copy to:

1. The Superintending Engineer.....
2. The Executive Engineer.....Division

Annexure-VI

APPENDIX – XVIII

Notice for appointment of Arbitrator

[Refer Clause 25]

To The Chief Engineer/Superintending Engineer

..... (Zone or Region)

.....

Subject: Notice for appointment of arbitrator for adjudication of disputes relating to agreement No…….

Dear Sir,

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

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

24. I/We hereby give consent for appointment of Arbitrator of MOHUA. Waiver agreement as per

Appendix-XIX is enclosed.

Or

I/We do not give consent for appointment of Arbitrator of MOHUA.

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

a) Statement of claims with amount of each claim.
b) Agreement of waiver of section 12(5) of the Arbitration and conciliation Act 1996 in Appendix-XIX.

16. Date of appeal to you

Yours faithfully,

.....

(Signature of the applicant)

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

Copy in duplicate to:

The Executive Engineer,

..... Division.

Annexure-VII

APPENDIX – XIX

Agreement towards waiver of section 12(5) of Arbitration & Conciliation Act 1996

[Refer Clause 25]

1. Whereas certain disputes have arisen between M/s ……(Claimants) and M/s…….(Respondents) relating to agreement No……..

2. And whereas the parties are aware that Shri……is on the cadre of CPWD, presently on deputation as Arbitrator, Ministry of Housing and Urban Affairs, Govt. of India.

3. I/We agree for the appointment of Shri……..as the sole Arbitrator for adjudication of the disputes, and we hereby waive the applicability of section 12(5) of the Arbitration & Conciliation Act, 1996.

Date…….

Yours faithfully,

…….

(Signature of the applicant)

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

(The name of the Arbitrator, Ministry of Housing and Urban Affairs, Government of India may be enquired from the Engineer-in-charge, if required)

Annexure-VIII

FORM "F"

UNDERTAKING ON STRUCTURAL STABILITY AND SOUNDNESS OF ALREADY COMPLETED BUILDINGS AND INFRASTRUCTURE PROJECTS.

I/we undertake and confirm that any building / infrastructure constructed by our firm /partnership firm/ company has not suffered any failure, making it unfit for intended use, either due to structural design and defects or due to use of sub-standard materials or execution of sub-standard work, poor workmanship or any other reason during the last 25 (twenty five) years.

I/we, further, undertake that if such information comes to the notice of CPWD, then Engineer-in-Charge shall be free to terminate the bid/agreement and to forfeit the entire amount of earnest money deposit, performance guarantee and security deposits.

I/we, also undertake that in addition to above, the Engineer-in-Charge shall be free to debar us forever from tendering in CPWD.

The decision of Engineer-in-Charge or any higher authority shall be final and binding.

Signature of notary with seal

Signature of bidder or an authorized person of the firm with stamp

Note: Affidavit to be furnished on a 'Non-judicial' stamp paper of Rs. 200/- (scanned copy of the notarized affidavit to be uploaded at the time of submission of bid).

GUARANTEE BONDS/AFFIDAVIT FOR WORK

Annexure –IX

GUARANTEE TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER SUPPLY AND SANITARY INSTALLATIONS, UPVC WINDOWS, ROCK WOOL INSULATION AND POLYURETHENE FOAM, METAL FALSE CEILING SYSTEM, ACP, STONE AND TILES WORK.

The agreement made this _____ day of _____ two thousand and _____ between _____ S/o _____ (hereinafter called the GUARANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part).

WHEREAS THIS agreement is supplementary to a contract. (Herein after called the Contract) dated _____ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor interalia, under look to render the work in the said contract recited structurally stable workmanship and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable and guarantee against faulty workmanship, finishing, manufacturing defects of materials and leakages etc.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable, after the expiry of Construction period prescribed in the contract for the minimum life of ten years, to be reckoned from the date after the expiry of Construction period prescribed in the contract.

The decision of the Engineer in charge with regard to nature and cause of defects shall be final.
During the period of guarantee the guarantor shall make good all defects to the satisfaction of the Engineer in charge calling upon him to rectify the defects, failing which the work shall be got done by the Department by some other contractor at the guarantor's cost and risk. The decision of the Engineer in charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all the defects, commits breach thereunder then the guarantor will indemnify the Principal and his successor 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 WITHNES WHEREOF those presents have been executed by the obligator _____ and _____ by for and on behalf of the PRESIDENT OF INDIA on the day , month and year first above written.

Signed sealed and delivered by OBLIGATOR in presence of:

_____

_____

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY_____ _____
In the presence of :

_____

_____

Annexure –X

GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR WATER PROOFING TREATMENT FOR BASEMENT / TERRACE / TOILETS.

The agreement made this _____ day of _____ two thousand and _____ between _____ S/o _____ (hereinafter called the GUARANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part).

WHEREAS THIS agreement is supplementary to a contract. (Herein after called the Contract) dated_____ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor interalia, undertook to render the structures in the said contract the work in the said contract recited completely water and leak proof.

THE GUARANTOR hereby guarantee that the water proofing treatment given by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date after the expiry of Construction period prescribed in the contract.

Provided that the guarantor will not be responsible for leakage caused by earthquake or structural defect.

The decision of the Engineer in charge with regard to cause of leakage shall be final.

During the period of guarantee the guarantor shall make good all defects and in case of any defects being found render the structure 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 notice from the Engineer in charge calling upon him to rectify the defects, failing which the work shall be got done by the Department through some other contractor at the guarantor's cost and risk. The decision of the Engineer in charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the water proofing, or commits breach thereunder then the guarantor will indemnify the Principal and his successor against all loss, damage, cost of expenses or otherwise which may be incurred by him by reason of any 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 cost incurred by the Government on the decision of the Engineer in charge will be final and binding on the parties.

IN WITHNES WHEREOF those presents have been executed by the obligator _____ and _____ by for and on behalf of the PRESIDENT OF INDIA on the day, monthand year first above written.

Signed sealed and delivered by OBLIGATOR in presence of:

_____

_____

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY_____
In the presence of

CPWD

QUALITY ASSURANCE PROGRAMME

The following test has to be done by contractor or his authorized representative and engineer-in-charge. The reports shall be signed by contractor and engineer-in-charge. The copies of such reports at various stages shall be appended with each running account bill and final bill failing which no payment shall be released to contractor.
The SE, Siliguri, CPWD shall also check and sign these reports at suitable intervals.

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

S. No.	Items & Test	Field / Lab	Quantity as per Estimate	Frequency as per specification	No. of test reqd.**	Remarks
1.	Sand		**			
(a)	Organic impurities	F				
(b)	Silt content	F				
(c)	Particle size distribution	F/L				
(d)	Bulking of sand	F				
2.	Stone Aggt. 40 mm		**			
(a)	Particle size distribution	F/L				
(b)	Surface moisture	F/L				
(c)	Ten percent fine value	F/L				
(d)	Specified gravity	F/L				
(e)	Bulk density	F/L				
(f)	Aggregate crushing strength	F/L				
(g)	Aggregate impact value	F/L				
3.	Stone Aggt. 20 mm		**			
(a)	Particle size distribution	F/L				
(b)	Surface moisture	F/L				
(c)	Ten percent fine value	F/L				
(d)	Specified gravity	F/L				

(e)	Bulk density	F/L				
(f)	Aggregate crushing strength	F/L				
(g)	Aggregate impact value	F/L				
4.	Stone Aggt. 10/12.5 mm		**			
(a)	Particle size distribution	F/L				
(b)	Surface moisture	F/L				
(c)	Ten percent fine value	F/L				
(d)	Specified gravity	F/L				
(e)	Bulk density	F/L				
(f)	Aggregate crushing strength	F/L				
(g)	Aggregate impact value	F/L				
5.	Concrete		**			
(a)	Slump	F				
6.	RCC		**			
(a)	Cube test	L				
(b)	Slump test	F/L				
7.	Bricks / brick tiles	L	**			
(a)	Dimensions,					
(b)	Compressive strength					
(c)	Water absorption					
(d)	Efflorescence					
8.	Steel for RCC	L	**			
	(Chemical & Mech test)					
9.	Cement	L	**			
	(Chemical &Phy. test)					
10.	Water	L	**			
(a)	Chemical					
(b)	Physical property					
11.	Flush door	L	**			

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

(a)	End immersion test					
(b)	Knife test					
(c)	Adhesion test					

12.	Terrazo tiles	L	**			(0.23×0.23)
(a)	Transverse strength					
(b)	Water absorption					
(c)	Abrasion test					
13.	Ceramic glazed tiles (for floor & walls)	L	**			(300×300 mm)
(a)	Water absorption					
(b)	Crazing test					
(c)	Impact strength test					
(d)	Chemical resistant test					
14.	Marble	L	**			
(a)	Moisture absorption					
(b)	Mhos scale hardness test					
15.	uPVC Window	L	**			
16.	Stone	L	**			
17.	Ultrasonic Pulse Velocity Test	F				

The frequency of the test shall be as per CPWD specification-2019 with upto date correction slips No. 16 Dt. 02-05-2022.

The Ultrasonic Pulse Velocity Test shall be carried out on RCC members as per CE(CSQ), CPWD, technical circular no. 24 of CE (CSQ) issued vide no. G-2/SE(QA)/CSQ /69 dt. 12.02.13 and all the expenditure involved for carrying out the tests shall be borne by the contractor.

Note: In above mandatory test list further required test as per relevant code's provision, wherever necessary as per direction of Engineer-in-charge.

**** shall be calculated by contractor as per consumption of material in the agreement items including deviations.**

SCHEDULE OF QUANTITIES (CIVIL)

NAME OF WORK: **Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.**

Sl. No.	Description	Qty	Unit	Rate	Amount	DSR No.
1	EARTH WORK					2
1.1	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and for all lift, as directed by Engineer-in-charge.					2.6
1.1.1	All kinds of soil	1790.5	cum	177.50	317814.00	2.6.1
1.2	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, for all lift, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.					2.8
1.2.1	All kinds of soil.	10	cum	260.30	2603.00	2.8.1
1.3	Excavating trenches by mechinical / manual means of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, for all depth, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m:					2.1
1.3.1	All kinds of soil					2.10.1
1.3.1.1	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	139	metre	352.15	48949.00	2.10.1.2
1.4	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lift.	1089	cum	196.00	213444.00	2.25

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

1.5	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	103	cum	2123.75	218746.00	2.27
1.6	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared.	2048	sqm	17.60	36045.00	2.31
	Sub-Total				837601.00	
2	CEMENT CONCRETE (CAST IN SITU)					4
2.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :					4.1
2.1.1	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	7	cum	7878.50	55150.00	4.1.3
2.1.2	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	141	cum	6518.60	919123.00	4.1.10
2.2	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75 mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.	108.1	sqm	749.30	80999.00	4.17
	Sub-Total				1055272.00	
3	REINFORCED CEMENT CONCRETE					5
3.1	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :					5.1

3.1.1	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	34.4	cum	8583.40	295269.00	5.1.3
3.2	Centering and shuttering including strutting, propping etc. and removal of form for					5.9
3.2.1	Foundations, footings, bases of columns, etc. for mass concrete	123	sqm	392.15	48234.00	5.9.1
3.2.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	2711	sqm	842.50	2284018.00	5.9.2
3.2.3	Suspended floors, roofs, landings, balconies and access platform	941	sqm	927.25	872542.00	5.9.3
3.2.4	Lintels, beams, plinth beams, girders, bressumers and cantilevers	2262	sqm	736.40	1665737.00	5.9.5
3.2.5	Columns, Pillars, Piers, Abutments, Posts and Struts	532	sqm	961.30	511412.00	5.9.6
3.2.6	Stairs, (excluding landings) except spiral-staircases	83	sqm	764.95	63491.00	5.9.7
3.2.7	Edges of slabs and breaks in floors and walls					5.9.16
3.2.7.1	Under 20 cm wide	163	metre	208.55	33994.00	5.9.16.1
3.2.8	Weather shed, Chajjas, corbels etc., including edges	100	sqm	951.10	95110.00	5.9.19
3.3	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					5.22
3.3.1	Thermo-Mechanically Treated/ Low alloy steel bars of grade Fe-500D or more.	50256	kg	107.85	5420110.00	5.22.6
3.4	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.					5.22A
3.4.1	Thermo-Mechanically Treated/ Low alloy steel bars of grade Fe-500D or more.	72525	kg	107.85	7821821.00	5.22A.6

3.5	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge, for the following grades of concrete.: Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.					5.33
3.5.1	All works upto plinth level					5.33.1
3.5.1.1	Concrete of M25 grade with minimum cement content of 330 kg /cum	292	cum	9504.75	2775387.00	5.33.1.1
3.5.2	All works above plinth level upto floor V level					5.33.2
3.5.2.1	Concrete of M25 grade with minimum cement content of 330 kg /cum	431	cum	9860.40	4249832.00	5.33.2.1
3.6	Add for using extra cement in the items of design mix over and above the specified cement content therein.	238	quintal	733.50	174573.00	5.35
	Sub-Total				26311530.00	
4	MASONRY WORK					6
4.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:					6.1
4.1.1	Cement mortar 1:4(1 cement :4 coarse sand)	27	cum	7370.65	199008.00	6.1.1

4.2	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in :					6.34
4.2.1	Cement mortar 1:6 (1 cement: 6 Coarse sand)	333	cum	8752.55	2914599.00	6.34.2
4.3	Half brick masonry with non modular fly ash bricks of class designation 10, conforming to IS :12894, in super structure above plinth upto floor V level.					6.45
4.3.1	Cement mortar 1 : 4 (1 cement : 4 coarse sand)	509	sqm	1105.80	562852.00	6.45.2
	Sub-Total				3676459.00	
5	CLADDING WORK					8
5.1	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.					8.2
5.1.1	Granite stone slab of all colour and texture except black, Cherry/Ruby red					8.2.3
5.1.1.1	Area of slab upto 0.50 sqm	9	sqm	4170.70	37536.00	8.2.3.1
5.1.1.2	Area of slab over 0.50 sqm	11	sqm	3848.70	42336.00	8.2.3.2
5.2	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3(1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	153	sqm	1267.95	193996.00	8.31

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	Sub-Total				273868.00	
6	WOOD AND P. V. C. WORK					9
6.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).					9.1
6.1.1	Second class teak wood	1.12	cum	142949.70	160104.00	9.1.1
6.2	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:					9.21
6.2.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	68	sqm	2392.65	162700.00	9.21.1
6.3	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.					9.48
6.3.1	Fixed to openings /wooden frames with rawl plugs screws etc.	2496	kg	238.35	594922.00	9.48.2
6.4	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.					9.101
6.4.1	Twin rubber stopper	27	each	72.35	1953.00	9.101.2

6.5	Providing and fixing factory made uPVC glazed/wire mesh windows/ doors comprising of lead free uPVC multi-chambered frame, sash and mullion/coupler (where ever required) extruded profiles having minimum wall thickness of 1.70 mm for Series R1 and R2 profiles and 2.10 mm for Series R3 and R4 profiles conforming to EN: 12608 in any shape, colour and design duly reinforced with galvanized mild steel section made of required shape & size as per CPWD Specification, uPVC extruded glazing beads, interlocks and lnline sash adaptor (where ever required) of appropriate dimension, EPDM gasket, hardware, SS 304 grade fasteners of minimum 8 mm dia with countersunk head, comprising of matching polyamide PA6 grade sleeve for fixing frame to finished wall as per IS 1367 : Part 1 to 14, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame, sash & mullion (if required) shall be mitred cut and fusion welded/mechanically jointed duly sealed at all corners, including drilling of holes for fixing hardware and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of approved size and quality, all complete as per approved drawing conforming to CPWD specification & direction of Engineer-in-Charge. Section of steel reinforcement and cross sections of uPVC profiles to be as per design approved by Engineer-in-Charge. Wire mesh / Glazing of plain/ toughened/ laminated/ double glass unit with / without high performance coatings as per design requirements and conforming to IS: 3548 & IS: 16231 shall be paid separately. Note:- Structural design proof checked from a Government Engineering Institute, to be provided by the manufacturer for (i) Sites with basic wind speed > 45 m/sec as per IS 875 — Part 3 (ii) Sites with structure height more than 20m for all wind speeds.					9.147

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6.5.1	Three track three panels sliding window with two glazed & one wire mesh panels with Aluminium channel for roller track, wool pile, nylon rollers with SS 304 body.					9.147.A4
6.5.1.1	Using R3 series with frame (98 mm & above) x (40 mm & above) & both glazed and fly screen sash (30 mm & above) x (55 mm & above) with zinc alloy (zamak) powder coated handle on every glazed panel along with multi-point locking system. (Height upto 1.8m).	156	sqm	10874.20	1696375.00	9.147.A4.2
6.5.2	Fixed window/ ventilator without mullion /transom.					9.147.C1
6.5.2.1	Using R1 series with frame (33 mm & above) x (35 mm & above). (Height upto 0.90 metre)	4	sqm	8247.25	32989.00	9.147.C1.1
	Sub-Total				2649043.00	
7	STEEL WORK					10
7.1	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.					10.16
7.1.1	Hot finished welded type tubes	7704	kg	194.40	1497658.00	10.16.1
7.2	Providing and fixing M.S. fan clamp type I or ll of 16 mm dia M.S. bar, bent to shape with hooked ends in R.C.C. slabs or beams during laying, including painting the exposed portion of loop, all as per standard design complete.	30	each	226.00	6780.00	10.17
7.3	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.	30	each	220.65	6620.00	10.18
7.4	Providing and fixing mild steel round holding down bolts with nuts and washer plates complete.	503	kg	97.20	48892.00	10.19

7.5	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, bufing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	1044	kg	772.40	806386.00	10.28
	Sub-Total				2366336.00	
8	FLOORING					11
8.1	Providing and laying Vitrified tiles in floor in diferent sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.					11.41A
8.1.1	Double charge vitrified tile polished finish of size					11.41A.1
8.1.1.1	Size of Tile 600 x 600 mm	817	sqm	1453.65	1187632.00	11.41A.1.1
8.1.2	Glazed Vitrified tiles Matt/Antiskid finish of size					11.41A.3
8.1.2.1	Size of Tile 600 x 600 mm	75	sqm	1464.85	109864.00	11.41A.3.1

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8.2	Providing and laying Vitrified tiles in diferent sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete.					11.46
8.2.1	Size of Tile 600x600 mm	84.09	sqm	1623.05	136482.00	11.46.2
8.3	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.					11.56
8.3.1	Polished Granite stone slab of colour Black, Cherry/Ruby Red or equivalent	221	sqm	4481.30	990367.00	11.56.1
	Sub-Total				2424345.00	
9	ROOFING					12
9.1	Providing and fixing M.S. holder bat clamps of approved design to C.I. or S.C.I. rain water pipes embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and cost of cutting holes and making good the walls etc. :					12.38
9.1.1	100 mm diameter	60	each	362.85	21771.00	12.38.1
9.2	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.					12.41

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9.2.1	110 mm diameter	45	metre	377.40	16983.00	12.41.2
9.3	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS :5382, leaving 10 mm gap for thermal expansion.					12.42
9.3.1	Bend 87.5°					12.42.5
9.3.1.1	110 mm bend	40	each	150.35	6014.00	12.42.5.2
9.3.2	Shoe (Plain)					12.42.6
9.3.2.1	110 mm Shoe	20	each	131.85	2637.00	12.42.6.2
9.4	Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-Charge) of total coated thickness 0.50 mm (base metal of minimum 0.45 mm thickness with total coating thickness of 0.05mm) with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	60	sqm	738.65	44319.00	12.5
9.5	Providing and fixing precoated galvanised steel sheet roofing accessories of total coated thickness 0.50 mm (base metal of minimum 0.45 mm thickness with total coating thickness of 0.05 mm) with Zinc coating 120 gram per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/ self tapping screws complete :					12.51
9.5.1	Ridges plain (500- 600mm)	20	metre	532.35	10647.00	12.51.1

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9.5.2	Barge board (Upto 300 mm)	32	metre	451.50	14448.00	12.51.4
9.5.3	Gutter (600 mm over all girth)	32	metre	1313.70	42038.00	12.51.6
	Sub-Total				158857.00	
10	FINISHING					13
10.1	12 mm cement plaster of mix:					13.1
10.1.1	1:6(1 cement: 6 fine sand)	1483	sqm	333.35	494358.00	13.1.2
10.2	15 mm cement plaster on the rough side of single or half brick wall of mix:					13.2
10.2.1	1:6 (1 cement: 6 fine sand)	807	sqm	383.00	309081.00	13.2.2
10.3	6 mm cement plaster of mix:					13.16
10.3.1	1:3(1 cement :3 fine sand)	1893	sqm	300.45	568752.00	13.16.1
10.4	Distempering with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gram/litre, of approved manufacturer and of required shade and colour all complete to achieve even shade and colour:					13.41
10.4.1	New work (two or more coats) over and including water thinnable priming coat with cement primer having VOC content less than 50 gram/litre	3376	sqm	185.65	626754.00	13.41.1
10.5	Finishing walls with textured exterior paint of required shade:					13.45
10.5.1	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	807	sqm	223.60	180445.00	13.45.1
10.6	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	4183	sqm	156.05	652757.00	13.8
	Sub-Total				2832147.00	
11	ROAD WORK					16
11.1	Providing and laying 60 mm thick faciory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	450	sqm	972.00	437400.00	16.68

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11.2	Providing and laying matt finished vitrified tile of size 300x300x9.8 mm having with water absorption less than 0.5% and conforming to IS: 15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20 mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	20	sqm	1455.65	29113.00	16.89
	Sub-Total				466513.00	
12	SANITARY INSTALLATIONS					17
12.1	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :					17.2
12.1.1	W.C. pan with ISI marked white solid plastic seat and lid	10	each	6515.55	65156.00	17.2.1
12.2	Providing and fixing white vitreous china flat back half stall urinal of size 580x380x350 mm with white PVC automatic flushing cistern, with fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, C.I. trap with outlet grating and other couplings in C.P. brass, including painting of fittings and cutting and making good the walls and floors wherever required :					17.5
12.2.1	Single half stall urinal with 5 litre P.V.C. automatic flushing cistern	6	each	12071.75	72431.00	17.5.1
12.3	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:					17.7

12.3.1	White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap	7	each	2226.35	15584.00	17.7.2
12.4	Providing and fixing white vitreous china pedestal for wash basin completely recessed at the back for the reception of pipes and fittings.	7	each	1683.35	11783.00	17.8
12.5	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :					17.1
12.5.1	Kitchen sink without drain board					17.10.2
12.5.1.1	610x510 mm bowl depth 200 mm	1	each	4940.80	4941.00	17.10.2.1
12.6	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.					17.28
12.6.1	Flexible pipe					17.28.2
12.6.1.1	32 mm dia	13	each	119.55	1554.00	17.28.2.1
12.7	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	7	each	1607.95	11256.00	17.31
12.8	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	7	each	1083.50	7585.00	17.33
12.9	Providing and fixing toilet paper holder :					17.34
12.9.1	C.P. brass	7	each	803.70	5626.00	17.34.1
12.1	Providing and fixing soil, waste and vent pipes :					17.35
12.10.1	100 mm dia					17.35.1
12.10.1.1	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	60	metre	1169.30	70158.00	17.35.1.3

12.11	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including cost of cutting holes and making good the walls etc. :					17.37
12.11.1	For 100 mm dia pipe	36	each	362.85	13063.00	17.37.1
12.12	Providing and fixing plain bend of required degree.					17.39
12.12.1	100 mm dia					17.39.1
12.12.1.1	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	24	each	368.00	8832.00	17.39.1.3
12.13	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					17.43
12.13.1	100x100x100 mm					17.43.1
12.13.1.1	Sand cast iron S&S as per IS – 3989	29	each	925.70	26845.00	17.43.1.2
12.14	Providing and fixing terminal guard :					17.56
12.14.1	100 mm					17.56.1
12.14.1.1	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	20	each	427.80	8556.00	17.56.1.3
12.15	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipe					17.57A
12.15.1	100 mm dia					17.57A.1
12.15.1.1	SS 304 grade coupling with EPDM rubber gasket	20	each	432.05	8641.00	17.57A.1.1
12.16	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :					17.6
12.16.1	100 mm inlet and 100 mm outlet					17.60.1
12.16.1.1	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	20	each	854.55	17091.00	17.60.1.3

12.17	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.	7	each	168.35	1178.00	17.71
12.18	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.					17.73
12.18.1	450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms	7	each	673.40	4714.00	17.73.1
	Sub-Total				354994.00	
13	WATER SUPPLY					18
13.1	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply and all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall					18.7
13.1.1	25 mm nominal dia Pipes	160	metre	401.55	64248.00	18.7.3
13.1.2	32 mm nominal dia Pipes	60	metre	518.75	31125.00	18.7.4
13.1.3	40 mm nominal dia Pipes	50	metre	702.95	35148.00	18.7.5
13.2	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings and fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.					18.8
13.2.1	15 mm nominal dia Pipes	180	metre	497.80	89604.00	18.8.1

13.3	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :					18.17
13.3.1	25 mm nominal bore	10	each	622.40	6224.00	18.17.1
13.3.2	32 mm nominal bore.	25	each	689.60	17240.00	18.17.2
13.3.3	40 mm nominal bore	10	each	826.10	8261.00	18.17.3
13.4	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :					18.18
13.4.1	25 mm nominal bore	5	each	464.05	2320.00	18.18.3
13.5	Providing and fixing uplasticised PVC connection pipe with brass unions :					18.21
13.5.1	45 cm length					18.21.2
13.5.1.1	15 mm nominal bore	17	each	97.75	1662.00	18.21.2.1
13.6	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :					18.22
13.6.1	150 mm diameter	6	each	222.35	1334.00	18.22.2
13.7	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	6000	per litre	11.00	66000.00	18.48
13.8	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.					18.51
13.8.1	15 mm nominal bore	6	each	798.95	4794.00	18.51.1
13.9	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931					18.53
13.9.1	15 mm nominal bore	27	each	574.30	15506.00	18.53.1
	Sub-Total				343466.00	
14	DRAINAGE					19
14.1	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :					19.6
14.1.1	150 mm dia. R.C.C. pipe	50	metre	556.45	27823.00	19.6.2

14.2	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :					19.7
14.2.1	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :					19.7.1
14.2.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	12	each	12770.55	153247.00	19.7.1.1
14.2.2	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) :					19.7.2
14.2.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	8	each	26405.50	211244.00	19.7.2.1
14.3	Extra for depth for manholes :					19.8
14.3.1	Size 90x80 cm					19.8.1
14.3.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	20	metre	8825.40	176508.00	19.8.1.1
14.3.2	Size 120x90 cm					19.8.2
14.3.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	12	metre	10585.50	127026.00	19.8.2.1
14.4	Supplying and fixing C.I. cover without frame for manholes :					19.18
14.4.1	455x610 mm rectangular C.I. cover (light duty) the weight of the cover to be not less than 23 kg	2	each	1358.00	2716.00	19.18.1

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

14.5	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design.					19.32
14.5.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2	each	26861.90	53724.00	19.32.1
	Sub-Total				752288.00	
15	NEW TECHNOLOGIES AND MATERIALS					26
15.1	Providing & fixing false ceiling at all heights with GRG (Glass Fibre Reinforced Gypsum) false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having moisture content less than 2%, humidity resistance of 99%, NRC0.50 to 0.75 as per IS 8225:1987, Non combustible as per BS 476 (part 4)-1970 and light reflectance of 85% (minimum) to be laid in true horizontal level suspended on inter-locking metal T-Grid of hot dipped galvanised iron section of 0.33 mm thick (galvanized @ 120 gram per sqm including both sides) comprising of main-T runners of size 15x32 mm of length 3000 mm, cross - T of size 15x32 mm of length 1200 mm and secondary intermediate cross-T of size 15x32 mm of length 600 mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 50 mm long, 8 mm outer diameter M-6 dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 85x25x2 mm. Galvanised iron perimeter wall angle of size 24x24x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40 mm long dry wall wood screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.					26.26
15.1.1	With semi perforated 12 mm thick micro tegular edged GRG false ceiling tiles.	750	sqm	1852.05	1389038.00	26.26.1

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

15.2	Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid door/window/Clerestory windows & other Frames/ Chowkhat comprising of virgin PVC polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/ wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) fabricated with miter joints after applying PVC solvent cement and screwed with full body threaded star headed SS screws having minimum frame density of 750 kg/cum, screw withdrawal strength of 2200 N (Face) & 1100 N (Edge), minimum compressive strength of 58 N/mm2, modulus of elasticity 900 N/mm2 and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixed in position with M.S hold fast/lugs/SS dash fasteners of required dia and length complete as per direction of Engineer-In- Charge. (M.S hold fast/lugs or SS dash fasteners shall be paid for separately). Note: For WPC solid door/window frames, minus 5 mm tolerance in dimensions i.e depth and width of profile shall be acceptable. Variation in profile dimensions on plus side shall be acceptable but no extra payment on this account shall be made.					26.86
15.2.1	Frame size 45 x 85 mm	83	metre	926.35	76887.00	26.86.2

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

15.3	Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid decorative type flush door shutter of required size comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/mm2, modulus of elasticity 850 N/mm2 and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant. WPC to be laminated with PVC foil of minimum 14 microns thick of approved design pasted with hot melt adhesive on both faces of shutter and fixing with stainless steel butt hinges of required size with necessary full body threaded star headed counter sunk S.S screws, all as per direction of Engineer-In- Charge. (Note: stainless steel butt hinges and necessary S.S screws shall be paid separately)					26.88
15.3.1	30 mm thick	28	sqm	4764.20	133398.00	26.88.1
	Sub-Total				1599323.00	
	Total				46102042.00	
	Modified Estimated Cost after using correction factor on DSR 2023 on account of GST @ 0.973				44857287.00	
	Add Cost Index @47.29% on SR&DR				21213011.00	
	Total				**66070298.00**	(A)
	Non-Schedule Items					
16.1	Providing and fixing Stainless steel sliding door bolts, of Dorma, Godrej, harrison, kich, archie or equivalent make with necessary Stainless steel nuts and screws etc. complete : as per direction of Engineer - in – Charge					MR
16.1.1	250x16 mm	28.00	each	523.60	14661.00	

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

16.2	Providing and fixing Stainless steel Tower bolts, of Dorma, Godrej, harrison, kich, archie or equivalent make with necessary Stainless steel screws etc. complete : as per direction of Engineer - in - Charge					MR
16.2.1	150x10 mm	52.00	each	141.00	7332.00	
16.3	Providing and fixing Stainless steel handles of Dorma, Godrej, harrison, kich, archie or equivalent make i/c fixing with necessary stainless steel screws etc. complete : as per direction of Engineer - in- Charge					MR
16.3.1	150 mm	50.00	each	66.25	3313.00	
16.4	Providing and fixing glazing in UPVC sliding glazed window, fixed glazed windows/ventilators as well as casement cum fixed glazed windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Glazing for three track three panels sliding windows, fixed window/ventilator and casement window single panel.					MR
16.4.1	6.0 mm thick toughened glass panes.	140.00	sqm	1868.00	261520.00	
16.50	Providing and fixing C.P. brass 2 Way bib cock with wall flange, (CAT no. FLR-5041 N of Jaguar make or equivalent) and hand shower health faucet with 1.00 m. long easy flex tube in chrome finish and wall hook (CAT no. ALD-CHR-565), all complete as per direction of Engineer-in-Charge.					MR
16.5.1	15mm nominal bore	9.00	each	4923.60	44312.00	
16.6	Providing and laying in plum cement concrete 1:3:6 (1 cement : 3 Coarse sand : 6 Graded stone aggregate with 40 mm nominal size) with admixture of plum stone not exceeding 65% in retaining wall , breast wall etc including compacting & curing complete as per direction of engineer-In-Charge.	2400.00	cum	6147.35	14753640.00	MR
16.7	Hand packed stone filling in foundation and plinth , road soling and rear side of Random Rubble masonry retaing wall etc. complete as per direction of Engineer-in-charge.	720.00	cum	3363.33	2421598.00	MR

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

16.8	Providing and Laying 110mm diametre of unplasticised Rigid single socketed PVC pipes confirming to IS: 13592 Type A, across the RCC/RRM retaining or breast wall for function as weep holes to reduce the horizontal pressure.	300.00	mtr	449.00	134700.00	MR
					.....	
	Total (B)=				**17641076.00**	**(B)**
	Grand Total (A+B)				**83711374.00**	

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CORRECTION SLIPS IN GCC-2023

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग

कार्यालय ज्ञापन

No. DG/CON/Construction 2023/01

ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Nirman Bhawan, New Delhi Dated: 10.11.2023

Sub: Modification in GCC Construction Works - 2023, Receipt and refund of EMDs online through e-gateway of SBI for e-tendering as pilot cases – reg.

The provision on earnest money deposit (EMD) through e-tendering is modified as under and shall only be applicable for C, E, I, N and Central Secretariat Divisions under ADG (Delhi) as pilot cases with immediate effect:-

Existing Provision	Modified Provision
CPWD-EPC CPWD-7/8 GOVERNMENT OF INDIA CENTRAL PUBLIC WORKS DEPARTMENT Percentage Rate Tender/Item Rate Tender & Contract for Works TENDER I/We have deposited EMD for the prescribed amount in the office of concerned Executive Engineer as per the bid document. A copy of earnest money deposit *receipt of prescribed amount deposited in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank, is scanned and uploaded (strike out as the case may be).).* If I/We, fail to	CPWD-EPC CPWD-7/8 GOVERNMENT OF INDIA CENTRAL PUBLIC WORKS DEPARTMENT Percentage Rate Tender/Item Rate Tender & Contract for Works TENDER I/We have deposited EMD **through online payment mode** for the prescribed amount as per the bid document. **In respect of portion of EMD prescribed in the shape of BG, the scanned copy of original Bank Guarantee including e-Bank Guarantee (as applicable) of any commercial bank having validity for a period of 90 days for single bid and 180 days for two bid systems or more from the last date of receipt of bids (strike out as the case may be), is to be uploaded.** If I/We, fail to.....

This is issued with the approval of DG CPWD.

10.11.2023

(वी. पी.साहू)

अधीक्षण अभियंता (सी.एंड एम.)

Issued from file No. CSQ/CM/17(1)/2023/ Construction e-file 9134857

के.लो.नि.वि. तथा लो.नि.वि. दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु (के.लो.नि.वि.वेबसाईट के माध्यम से)।

10/11/2023

R.K. JAIN

(EE (Contact)

Addition: NIL ***Correction: NIL***

Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

(1/2)

Central Public Works Department
Office Memorandum
No. DG/CON/Construction-2023/02
ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Nirman Bhawan, New Delhi **Dated: 14.11.2023**

Subject: Amendments in Clause 32, Schedule F of Clause 11 and 32 of GCC 2023 Construction Works.

The following amendments in Clause 32, Schedule F of Clause 11 and 32 are made in the GCC 2023 for Construction Works.

Existing Provision	Modified Provision
Clause 32 Employment of Technical Staff and employees	**Clause 32 Employment of Technical Staff and employees**
Contractors Superintendence, Supervision, Technical Staff & Employees	Contractors Superintendence, Supervision, Technical Staff & Employees
Sl. No. (i) and (iii)	No change
(iv) No Provision	**(iv) Building Information Model (BIM) professional shall be deployed by the contractor for the projects wherever required as mentioned in Schedule F.** **The BIM professional shall be available for the work as and when required by Engineer-in-Charge.** **The BIM professional will study 3D architectural models, architectural drawings generated from 3D models, service drawings and structural drawings.** **The BIM professional will interact with architects, planning & site engineers to get the clashes removed.** **The recovery shall be made from bill of contractor in case of non-deployment of BIM Professionals/technical staff as mentioned in Schedule 'F' of NIT without giving any notice in writing.** **The decision of Engineer-in-Charge in this respect is final and binding on the contractor.**

14/11/2023
R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

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SCHEDULE 'F' **Clause 11** Specifications to be followed for execution of work ..... **No provision**	**SCHEDULE 'F'** **Clause 11** Specifications to be followed for execution of work ..... i. **Building information model (BIM) is applicable and BIM professional to be deployed by contractor ..... (NIT approving authority to write Yes or No)**
SCHEDULE 'F' **Clause 32 Requirement of Technical Representative(s) and recovery Rate** Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers. Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers. **No Provision**	**SCHEDULE 'F'** **Clause 32 Requirement of Technical Representative(s) and recovery Rate** **No Change**. **No Change**. **Minimum recovery for not deploying Building Information Model (BIM) professional shall be Rs. two lac per month or as mentioned above, whichever is higher.**

This issues with the approval of DG CPWD.

14.11.2023
(V.P. Sahu)
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/17 (1)/2023/Construction e-file 9162768

All CPWD and PWD officers for information and necessary action.
(Through CPWD website).

14/11/2023
R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

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Central Public Works Department
Office Memorandum
No. DG/CON/Construction 2023/03
ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Nirman Bhawan, New Delhi Dated 06.12.2023

Subject: Modifications in Clause 12 and Schedule F for Clause 12 of GCC 2023 for Construction Works

The following amendments are made in the GCC 2023 Construction Works.

Existing provision	Modified provision
CONDITIONS OF CONTRACT **Definitions** 2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:- (i) to (xv) (xvi) No provision (xvii) No provision	**CONDITIONS OF CONTRACT** **Definitions** 2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:- (i) to (xv) **No change** **(xvi) Extra items** are those items which are not available in the contract. a. **Non Schedule Extra Items** are those items which are not available in the Standard Schedule of Rates specified in Schedule F. b. **Scheduled Extra Items** are those items which are available in the Standard Schedule of Rates specified in Schedule F. **(xvii) Completion cost: The completion cost includes gross amount of work done, amount of extra items and deviations and escalation admissible as per agreement etc.**
Clause 12 Deviations/ Variations Extent and Pricing The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the	**Clause 12 Deviations/ Variations Extent and Pricing** No Change

R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.	
The completion cost of any agreement for Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration should not exceed 1.25 times of Tendered amount. Any further deviation beyond this limit upto 1.5 times of tendered amount shall be approved by the authority mentioned in schedule 'F' with recorded reason and in exceptional case, ADG shall have full power to approve the deviation beyond 1.50 times of tendered amount with recorded reason and take suitable corrective action.	**Deleted**
No provision	**The completion cost shall, in no case, exceed 1.5 times the contract amount.** **Contractor will devise a system to keep a watch on quantum of work taken up vis-a-vis balance items required to complete defined scope of work and will give the alerts to Engineer-in-Charge before taking up extra items, deviations so that completion cost does not exceed above limit. Work executed beyond above limit will neither be recorded nor be paid.**

06/11/2023
R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

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	Engineer-in-Charge will verify and confirm the alerts before assigning deviations and / or extra items to the contractor. If additional work(s) is required to complete defined scope of work beyond above limit then Engineer-in Charge may take up such work(s) separately. The contractor will not have any claims whatsoever on this account.
12.1 The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor, as follows : i. In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus ii. 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge	12.1 The time for completion of the works shall, in the event of any deviations **and extra items** resulting in additional cost over the **contract amount will** be extended, if requested by the contractor, as follows : i. In the proportion **to** the additional cost of work, bears to the original **contract amount** plus ii. 25% of the time calculated in (i) above.
12.2 Deviation, Extra Items and Pricing In the case of extra item(s) (items which are not available in the contract), the contractor may within fifteen days of the receipt of order or occurrence of the item(s), submit claim for market rate(s), supported with proper analysis of rate and manufacturer's specification for the work, invoices, vouchers, etc. (as applicable), failing which the rate(s) approved later by the Engineer-in-Charge shall be final and binding. Where the contractor submits claim for market rate(s) in the manner prescribed above, the Engineer-in-Charge shall, within 45 days of the receipt of the claims, after giving consideration to the analysis of	**12.2 Deviation, Extra Items and Pricing** **a) Non Schedule Extra Items** - The contractor may, within fifteen days of the receipt of order **to execute extra item** or occurrence of the item(s), submit **analysis of rate of extra item(s) based on the rates of materials available in basic rate of Standard Schedule of Rate mentioned in schedule F and market rates of the materials which are not available in standard schedule of rate mentioned in schedule F. For this purpose, the basic rate of materials available in Schedule of Rates mentioned in Schedule F will be enhanced or reduced by the applicable cost index, as the case**

06/1/2025
R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

rates and other documents submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.	**may be.** **The rates of the materials which are not available in Standard Schedule of Rates, mentioned in Schedule F, shall be based on, tax paid bills for the material as defined in** manufacturer's specification. **Material rates from Standard Schedules of Rates shall be given priority in the analysis of rates.** **The rate of extra item will be:-** **i. Analyzed rates as above multiplied by (tender amount divided by estimated cost put to tender), if tendered amount is below the estimated amount put to tender.** **ii. Analyzed rate, if the tendered amount is above the estimated amount put to tender.** Failing which the rate(s) approved later by the Engineer-in-Charge shall be final and binding. Where the contractor submits **analysis of rate of extra items** in the manner prescribed above, the Engineer-in-Charge shall, within **60** days of the receipt of the **analysis of rate**, after giving consideration to the analysis of rates and other documents submitted by the contractor, determine the rate**(s) of extra items.** The contractor shall be paid in accordance with the rates so determined. **However provisional rates on the basis of invoice will be allowed by the Engineer-in-Charge. Invoice shall be accepted only for materials not available in the Standard Schedule of Rates mentioned in Schedule F. The extra items rate shall be finalized only after submission of tax paid bills by**

R.K. JAIN 12/2025
(EE (Contact)

Addition: NIL *Correction: NIL*
Overwriting: NIL *Deletion: NIL* *AE(P)/SC* *AE(E)(P)/SC* *EE(Gangtok)* *EE(E), Siliguri*

	the contractor to the Engineer-in-Charge as required above. The Engineer-in-Charge may apply the discount available in the market on the rate of materials taken from tax paid bills.
(b) No Provision	b) Scheduled Extra Items i. For percentage rate tenders, the extra item(s) shall be paid as per the Standard Schedule of Rates, mentioned in Schedule F, enhanced or reduced by the applicable cost index and further enhanced or reduced by percentage above/ below quoted by the contractor on estimated cost put to tender. ii. For item rate tenders, the extra item(s) shall be paid as per the said schedule rate enhanced or reduced by the applicable cost index and multiplied by (tender amount divided by estimated cost put to tender).
The rate(s) of extra items so determined by the Engineer-in-Charge shall be final and binding on the contractor, and shall not be arbitrable.	Deleted

06/11/2023
R.K. JAIN
(EE (Contact)

Addition: NIL *Correction: NIL*
Overwriting: NIL *Deletion: NIL* *AE(P)/SC* *AE(E)(P)/SC* *EE(Gangtok)* *EE(E), Siliguri*

CPWD

Deviation, deviated quantities, Pricing In the case of contract items which exceed the limit laid down in Schedule F, the contractor may within fifteen days of the receipt of order or occurrence of the excess, claim revision of the rates, supported with proper analysis of rate and invoices, vouchers, etc. (as applicable), for the quantity in excess of the above-mentioned limit. The Engineer-in-Charge shall within 45 days of receipt of the claims, after giving consideration to the analysis of rates and other documents submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined. The rate(s) so determined by the Engineer-in-Charge shall be final and binding on the contractor, and shall not be arbitrable.	**c) Deviation, deviated quantities, Pricing** In the case of contract items which exceed the limit laid down in Schedule F, the contractor may within fifteen days of the receipt of order or occurrence of the excess, claim revision of the rates, supported with proper analysis of rates **and other documents, as per procedure described in para 12.2(a) or 12.2(b)** (as applicable), for the quantities in excess of the above-mentioned limit. The Engineer-in-Charge shall within ~~45~~ **60** days of receipt of the claims, after giving consideration to the analysis of rates and other documents submitted by the contractor, determine the rates and the contractor shall be paid in accordance with the rates so determined. **In case, the contractor fails to submit his claim for revision of rates within 15 days of the receipt of order or occurrence of the excess, the Engineer-in-Charge shall determine the rate(s) of such items in accordance with para 12.2 (a) and 12.2 (b) without giving any notice to the contractor. The rates so determined by the Engineer-in-Charge shall be final and binding.** The rate(s) **of extra items and deviated items** so determined by the Engineer-in-Charge shall be final and binding on the contractor.
12.3 In the case of contract items which exceed the limit laid down in Schedule F, the Engineer-in-Charge shall after giving notice to the contractor within 30 days of submission of that bill by the contractor which contains such item(s), and after taking into consideration any reply received from the contractor within 15 days of the issue of such notice, reduce the rate for quantity in excess of the above-mentioned limit on the basis of market rates, within 30 days of the expiry	**Deleted**

06/11/2023
R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

of the said period of 15 days, and the contractor shall be paid in accordance with the rates so determined. The rate(s) so determined by the Engineer-in-Charge shall be final and binding on the contractor, and shall not be arbitrable	
12.4 The cost of any operation necessarily ..... admissible for such operations.	**12.3** The cost of any operation necessarily ..... admissible for such operations.
12.4 No provision	**12.4 Cost index** **Latest available Cost index at the time of beginning of execution of extra item and deviation shall be used in sub-clauses 12.2 (a), 12.2 (b) and 12.2 (c) for calculation of rates of extra items.**
12.5 No provision	**12.5 Labour rates** **Labour rates will be based on latest available circulars issued by Central Govt. or State Govt. whichever are higher as well as applicable for the work.**
PROFORMA OF SCHEDULES (Separate Performa for Civil, Elect.& Hort. Works in case of Composite Tenders) **SCHEDULE 'F'** **Clause 12** Authority to decide deviation upto 1.5 time of tendered amount	**PROFORMA OF SCHEDULES (Separate Performa for Civil, Elect.& Hort. Works in case of Composite Tenders)** **SCHEDULE 'F'** **Clause 12** Deleted
12.2 & 12.3 Deviation Limit beyond which clauses12.2 & 12.3 shall apply for building work	12.2 **(c)** Deviation Limit beyond which clauses12.2 **(c)** shall apply for building work .....

06/11/2023
R.K. JAIN
(EE (Contract))

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

12.4 (i) Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for foundation work (except items mentioned in earth work subhead in DSR and related items) ..... (ii) Deviation Limit for items mentioned in earth work subhead of DSR and related items	(i) Deviation Limit beyond which clauses 12.2 **(c)** shall apply for foundation work (except items mentioned in earth work subhead in DSR and related items) ..... (ii) Deviation Limit for items mentioned in earth work subhead of DSR and related items .....

This OM is applicable for all NITs issued w.e.f. date of issue of this OM. This issues with the approval of DG CPWD.

06.12.2023

(V.P. Sahu)
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/17(1)/Construction/2023 e-file no 9163323
All CPWD and PWD officers for information and necessary action.
(Through CPWD website.

06/12/2023
R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

केन्द्रीय लोक निर्माण विभाग

कार्यालय ज्ञापन

No. DG/CON/Construction 2023/04

ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Nirman Bhawan, New Delhi Dated: 08.12.2023

Subject: Modifications in Conditions of Contract, Clause 5 and schedule F in clause 5 of GCC 2023 Construction Works

The following amendments are made in the GCC 2023 for Construction works.

Existing Provision	Modified Provision
CONDITIONS OF CONTRACT **Definitions** 2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:- (i) to (xvii) (xviii) No provision	**CONDITIONS OF CONTRACT** **Definitions** 2. No change:- (i) to (xvii) No Change **(xviii) Concurrent delay: Concurrent delays are those delays occurring in the work concurrently in any combination or combination of all delay fall under different sub clauses 5.2, 5.3 and 5.5.**
Clause 5 Time and Extension for Delay The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the work shall commence from such time period as mentioned in schedule 'F' or from the date of handing over of the site, notified by the Engineer-in-Charge, whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid, the performance guarantee shall be forfeited by the Engineer in Charge and shall be absolutely at the disposal of the Government without prejudice to any other right or remedyavailable in law.	**Clause 5 Time and Extension for Delay** The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the work shall commence from such time period as mentioned in schedule 'F' or from the date of handing over of the site, notified by the Engineer-in-Charge, whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid **and such default continues even after time period specified in the notice in writing by the Engineer-in-Charge then** the performance guarantee shall be forfeited by the Engineer-in-Charge and shall be absolutely at the disposal of the Government without prejudice to

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Addition: NIL ***Correction: NIL***
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	any other right or remedy available in law. **The contract shall stand determined when such decision of forfeiture of the performance guarantee is issued to the contractor.**
5.1 As soon as possible but within 7 (seven) working days of award of work and in consideration of a. Schedule of handing over of site asspecified in the Schedule 'F' b. Schedule of issue of designs as specified in the Schedule 'F', i. the Contractor shall submit a Time and Progress Chart for each mile stone. The Engineer-in-Charge may within 7 (seven) working days thereafter, if required modify, and communicate the program approved to the contractor failing which the program submitted by the contractor shall be deemed to be approved by the Engineer-in- Charge. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents. ii. In case of non-submission of construction programme by the contractor, the program approved by the Engineer-in-Charge shall be deemed to be final.	5.1 **The contractor** as soon as possible but within 7 (seven) days of **issue of letter of** award of work **shall submit a time and progress chart to the Engineer-in-Charge. Such chart shall be made in due** consideration of a. Schedule of handing over of site as specified in the Schedule 'F' b. Schedule of issue of design(s) **and drawing(s)** as specified in the Schedule 'F', i. The Contractor shall submit a Time and Progress Chart for each milestone. The Engineer-in-Charge may within 7 (seven) days **of receipt of such chart, make modifications thereafter,** if **any,** and communicate the approved **chart** to the contractor, failing which the **chart** submitted by the contractor shall be deemed to be approved by the Engineer-in- Charge. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents. ii. In case of non-submission of **time and progress chart** by the contractor, the **chart prepared by the** Engineer-in- Charge shall be deemed to be final.

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Page **2** of **9**

Addition: NIL ***Correction: NIL***
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iii. The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract.	iii. The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract.
iv. The contractor shall submit the Time and Progress Chart and progress report using the mutually agreed software or in other format decided by Engineer-in-Charge for the work done during previous month to the Engineer-in-charge on or before 5th day of each month failing which a recovery as per Schedule F to be decided by the NIT approving authority shall be made on per week or part basis in case of delay in submission of the monthly progress report	**iv.** The contractor shall submit the Time and Progress Chart **containing upto date progress of work** using the mutually agreed software or in **the** format decided by Engineer-in-Charge. **Such chart shall be submitted by the contractor on or before 5th day of each month failing which a recovery as mentioned in Schedule 'F' shall be made at the earliest from running account bill without any notice in this regard.**
v. **No provision**	**v. While recording the hindrances in the progress of the work, due consideration should be given to the cause of hindrance. The hindrances shall be segregated in following categories :** **a) delays due to reasons beyond the control of both parties (sub-clause 5.2)** **b) delays attributable to the Department and concurrent delays (sub-clause 5.3).** **c) delays solely attributable to the contractor (sub-clause 5.5)**
5.2 If the work(s) be delayed by:- i. force majeure, or ii. abnormally bad weather, or iii. serious loss or damage by fire, or iv. civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or v. delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in,	**5.2 Delays due to reasons beyond the control of both parties:** If the work(s) delayed by:- i. force majeure, or ii. abnormally bad weather, or iii. serious loss or damage by fire, or iv. civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or v. delay on the part of other contractors or tradesmen engaged by Engineer-in- Charge in

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Addition: NIL *Correction: NIL*
Overwriting: NIL *Deletion: NIL* *AE(P)/SC* *AE(E)(P)/SC* *EE(Gangtok)* *EE(E), Siliguri*

executing work not forming part of the Contract, or vi. any other cause like above which, in the reasoned opinion of the Engineer-in-Charge is beyond the Contractor's control	executing work not forming part of the Contract, or vi. any other cause like above which, in the reasoned opinion of the Engineer-in-Charge is beyond the Contractor's control.
Then upon the happening of any such event causing delay, the contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.	Then upon the happening of any such event causing delay, the contractor shall **within 03 (three) days** give **online** notice thereof **through ERP Portal** to the Engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the work(s). **The contractor shall have no claim on account of any hindrance in case notice(s) are not given by the contractor through ERP portal.** **The Engineer-in-Charge, on receipt of such notice(s) after considering the factual ground situation, shall either acknowledge or reject the notice(s)** **In case of rejection, the reason(s) for rejection shall be communicated by Engineer-in-Charge to the agency.** **The decision of Engineer-in-Charge with regard to nature of event causing delay, its start date and end date, as has been finalized during acknowledgement of notice, shall be final and binding.** **The end date of such events shall be recorded by Engineer-in-Charge either during acknowledgment of notice or subsequent to acknowledgement if end date of hindrance is after the date of acknowledgement of notice.** **In absence of notice by the contractor, Engineer-in-Charge or his representative(s) may record the events causing delay within 05 (five)**

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	days of occurrence of hindrance on ERP portal provided further that not recording of events causing delay by the Engineer-in-Charge does not ipso facto entitle the contractor for any hindrance.
The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed in sub clause 5.2.	**No change.**
5.3 In case the work is hindered in the opinion of the contractor, by the Department or for any reason / event, for which the Department is responsible, the authority as indicated in Schedule 'F' shall, if justified, give a fair and reasonable extension of time and reschedule the mile stones for completion of work.	**5.3 Delays attributable to the department** In case the work is hindered, in the opinion of the contractor, by the Department or for any reason / event, for which the Department is responsible, **then upon the happening of such event causing delay, the Contractor shall within 3 (three) days give online notice there of through ERP Portal to the Engineer-in-Charge but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the work.** **The contractor shall not be entitled for any hindrance in case notice(s) are not given by the contractor through ERP portal.** **The Engineer-in-Charge, on receipt of such notice(s) after considering the factual ground situation, shall either acknowledge or reject the notice(s).** **In case of rejection, the reason(s) for rejection shall be communicated by Engineer-in-Charge to the agency.** **The decision of Engineer-in-Charge with regard to nature of event causing delay, its start date and end date, as has been finalized during acknowledgement of notice, shall be final and binding.**

R.K. JAIN
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	The end date of such events shall be recorded by Engineer-in-Charge either during acknowledgment of notice or subsequent to acknowledgement if end date of hindrance is after the date of acknowledgement of notice. **In absence of notice by the contractor, Engineer-in-Charge or his representative(s) may record the events causing delay within 05 (five) days of occurrence of hindrance on ERP portal provided further that not recording of events causing delay by the Engineer-in-Charge does not ipso facto entitle the contractor for any hindrance.**
Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in law, provided further that for concurrent delays under this sub clause and sub clause 5.2 to the extent the delay is covered under sub clause 5.2 the contractor shall be entitled to only extension of time and no damages.	Such extension of time or rescheduling of milestone**(s)** shall be without prejudice to any other right or remedy of the parties in contract or in law, provided further that for concurrent delay(s) under this sub clause and sub clause 5.2 to the extent the delay is covered under sub clause 5.2**,** the contractor shall be entitled to only extension of time and **shall have** no **claim of** damages.
5.4 Request for rescheduling of Mile stones or extension of time, to be eligible forconsideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed forms i.e. Form of application by the contractor for seeking rescheduling of milestones or Form of application by the contractor for seeking extension of time (Appendix - XVI) respectively to the authority as indicated in Schedule 'F'. The Contractor shall indicate in such a request the period by which rescheduling of milestone/s or extension of time is desired.	5.4 **Rescheduling of milestone(s) and 'extended date of completion'** The request for rescheduling of Milestone(s**) and** extension of time, shall be made by the Contractor **through ERP Portal once in a month on the basis of hindrances accepted by Engineer-in-Charge under sub-clause 5.2 and sub-clause 5.3.** The Contractor shall indicate in such a request **number of days** by which rescheduling of milestone**(s) and/**or extension of time is desired.
With every request for rescheduling of milestones, or if at any time the actual progress of work falls behind the approved programme by more than 10% of the stipulated period of completion of contract, the contractor shall produce a revised programme without causing any delay in execution	**Deleted**

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Addition: NIL ***Correction: NIL***
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of the work. A recovery as specified in Schedule 'F' shall be made on per day basis in case of delay in submission of the revised programme. **No provision**	**The authority as indicated in Schedule 'F', after examining the request, shall give a fair and reasonable extension of time for completion of work and simultaneously reschedule the milestone(s), if required so. The authority shall consider all the hindrances accepted as per sub-clauses 5.2, 5.3 and 5.5.** **The authority shall decide rescheduling of milestone(s) and extension of time within 21 (Twenty One) days of the request submitted by the contractor through ERP portal. In event of no request by the contractor for rescheduling of milestone(s) and extension of time, the authority as indicated in Schedule F, after affording opportunity to the contractor, may give fair and reasonable extension of time based on hindrances accepted by Engineer-in-Charge and reschedule the milestone(s) once in a month. Such justified extension of time shall determine the 'extended date' of completion of work.**
5.4.1 In any such case the authority as indicated in Schedule 'F' may give a fair and reasonable extension of time for completion of work or reschedule the mile stones. E-in-C shall finalize/ reschedule a particular mile stone before taking an	5.4.1 **Provided that the end date of any event causing delay shall not fall beyond the date of request for extension of time or rescheduling of milestone(s) by the contractor. In case end date of event falls beyond the date of submission of said request, then period for extension up to date of application shall be considered in the said request for events eligible for consideration and remaining period shall be applied in subsequent request of extension of time or rescheduling of milestone(s).** **Engineer-in-Charge** shall finalize/ reschedule a particular mile stone

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Addition: NIL *Correction: NIL*
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action against subsequent mile stone. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority as indicated in Schedule 'F' in writing, within 21 days of the date of receipt of such request from the Contractor in prescribed form. In event of non-application by the contractor for extension of time E-in-C after affording opportunity to the contractor, may give, supported with a programme (as specified under 5.4 above), a fair and reasonable extension within a reasonable period of occurrence of the event.	before taking an action against subsequent mile stone. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority as indicated in Schedule 'F' in writing, within 21 **(twenty one)** days of the date of receipt of such request from the Contractor **on ERP Portal.**
5.5 In case the work is delayed by any reasons, in the opinion of the Engineer- in-Charge, by the contractor for reasons beyond the events mentioned in clause 5.2 or clause 5.3 or clause 5.4 and beyond the justified extended date, without prejudice to right to take action under Clause 3, the Engineer-in-Charge may grant extension of time required for completion of work without rescheduling of milestones. The contractor shall be liable for levy of compensation for delay for such extension of time.	5.5 **Delays attributable solely to the contractor** **In case the work is delayed by reasons solely attributable to the contractor, then Engineer-in-Charge or his representative(s) may record the event causing delay within 05 (five) days of occurrence of delay in the ERP portal. Contractor shall take the notice of the same for necessary action. He may submit his version, if any within 05 (Five) days. Engineer-in-Charge, considering the version of the contractor, will take decision on such recording of the event and the decision of the Engineer-in-Charge shall be final and binding.** **The contractor shall be liable for levy of compensation for such delays (i.e. for the period beyond the justified extended date of completion as determined in sub clause 5.4 and this default of contractor shall be dealt in conjunction with clause 2 of the contract.** **In case the work is delayed, due to hindrances attributable solely to the contractor, beyond the justified extended date (as stated in sub clause 5.4), the authority indicated in Schedule 'F', without prejudice to provisions to take action under Clause 3, may grant extension of**

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R.K. JAIN
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Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

	time required for completion of work without rescheduling of milestone(s) and extend the date of completion.
PROFORMA OF SCHEDULES (Separate Performa for Civil, Elect.& Hort. Works in case of Composite Tenders) **SCHEDULE 'F'** **Clause 5** **Authority to decide:**	**PROFORMA OF SCHEDULES (Separate Performa for Civil, Elect. & Hort. Works in case of Composite Tenders)** **SCHEDULE 'F'** **Clause 5**
i. Extension of time ..... (Engineer in Charge or Engineer in Charge of Major Component in case of Composite Contracts, as the case may be)	i. **Authority to convey the decision of shifting of milestone and** extension of time ..... (Engineer-in-Charge or Engineer-in-Charge of Major Component in case of Composite Contracts, as the case may be)
ii. Rescheduling of mile stones ..... (Superintending Engineer/ PM/CPM in Charge or Superintending Engineer/ PM/CPM in Charge of Major Component in case of Composite Contracts, as the case may be)	ii. **Authority to decide rescheduling of milestone and** extension of time ..... (SE/**SE&PD/ CE/ CE&ED).**
iii. Shifting of date of start in case of delay in handing over of site ..... (Superintending Engineer/ PM/CPM in Charge or Superintending Engineer in Charge of Major Component in case of Composite Contracts, as the case may be)	iii. Shifting of date of start in case of delay in handing over of site ..... (SE/**SE&PD/CE/ CE&ED).**

This OM is applicable for all NITs uploaded after date of issue of this OM.

This is issued with the approval of DG CPWD.

08.12.2023

(वी. पी.साहू)

अधीक्षण अभियंता (सी.एंड एम.)

Issued from file No. CSQ/CM/17(1)/2023/ Construction e-file 9161772

के.लो.नि.वि. तथा लो.नि.वि. दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु (के.लो.नि.वि.वेबसाईट के माध्यम से)।

R.K. JAIN 8/12/2023
(Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग

कार्यालय ज्ञापन

No. DG/CON/Construction 2023/05

ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI Dated: 08.02.2024

Subject: Modifications in Conditions of Contract and Clause 19 of GCC 2023 for Construction Works

The following amendments are made in the GCC 2023 for Construction Works:

Existing provision	Modified provision
CONDITIONS OF CONTRACT **Definitions** 2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-	**CONDITIONS OF CONTRACT** **Definitions** 2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-
(i) to (xviii)	**(i) to (xviii) No change**
(xix) No provision	**(xix) Adolescent Person: A person who has completed his/her fourteenth year of age but has not completed his eighteenth year.**
(xx) No provision	**(xx) Hazardous works: Hazardous process/works are the works as defined in the clause (cb) of the Factory Act, 1948.**
Clause 19 Labour Laws to be complied by the Contractor The contractor shall comply with the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971. The contractor shall also obtain a valid licence under the said Act before the commencement of the work, and continue to have a valid licence until its completion. The contractor shall also comply with provisions of the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979.	**Clause 19 Labour Laws to be complied by the Contractor** **No change** **No change** **No change**

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

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The contractor shall also abide by the provisions of the Child and Adolescent Labour (Prohibition and Regulation) Act, 1986. The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996. Any failure to fulfil these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.	The contractor shall also abide by the provisions of the Child and Adolescent Labour (Prohibition and Regulation) Act, 1986, **amended by Amendment Act No. 35 of 2016 and thereafter time to time.** **No change** **No change**
Clause 19A No labour below the age of eighteen years shall be employed on the work.	Clause 19A No **person** below the age of **fourteen** years shall be employed on the work. **However Adolescent Persons can be employed on non-hazardous works/process.**
C.P.W.D. Contractor's Labour Regulations **2. DEFINITIONS** i. (c) Who is an out worker, that is to say, person to whom any article or materials are …….. premises under the control and management of the principal employer. No person below the age of 18 years shall be employed to act as a workman.	**C.P.W.D. Contractor's Labour Regulations** **2. DEFINITIONS** i. (c) No change. No person below the age of **fourteen** years shall be employed **on the work. However Adolescent Persons can be employed on non-hazardous works/process.**

This issues with the approval of DG CPWD.

08.02.2024

(वी. पी.साहू)
अधीक्षण अभियंता(सी.एंड एम.)

Issued from file No. CSQ/CM/17(1)/2023/Construction e-file 9169019

केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।
(केलोनिवि वेबसाईट के माध्यम से)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

Central Public Works Department
Office Memorandum
No. DG/CON/Construction 2023/06

ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD 01.03.2024

NIRMAN BHAWAN, NEW DELHI Dated: ~~20.02.2024~~

Subject: Modifications in Conditions of Contract, Clause 19 and 20 of GCC 2023 for Construction Works

The following amendments are made in the GCC 2023 for Construction Works:

Existing provision	Modified provision
CONDITIONS OF CONTRACT **Definitions** 9. **Signing of Contract:-** The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:- (i) to (iii) No Provision	**CONDITIONS OF CONTRACT** **Definitions** 9. **Signing of Contract:-** The successful tenderer, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:- (i) to (iii) No change **In the event of successful tenderer being a firm/company, then the agreement shall be signed by all the partners or directors thereof individually. In the event of the absence of any partner/director, it shall be signed on his behalf by a person holding a power of attorney (duly notarized by notary public or board resolution in case of company) authorizing him to do so.**
Clause 19 B Payment of Wages (i) The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the C.P.W.D. Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.	**Clause 19 B Payment of Wages** **(i)** The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the C.P.W.D. Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971 **and Gazette Notification 19.01.2017, S.O 188 (E) extra ordinary part 2 – sec. 3 (ii) amended time to time.**

29/04/2024
R.K. JAIN
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Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

	Thus higher of the wages either notified by Govt. of India, Ministry of Labour and/or that notified by the local administration of the State Govt. both relevant to the place of work and the period of reckoning shall be paid by the contractor to the labourer .
(v) The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made there under from time to time.	**(v)** The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, **Gazette Notification 19.01.2017, S.O 188 (E) extra ordinary part 2 – sec. 3 (ii) and** ~~or~~ the modifications thereof or any other laws relating thereto and the rules made there under from time to time.
Clause 20 Minimum Wages Act to be Complied With The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed there under and other labour laws affecting contract labour that may be brought into force from time to time.	**Clause 20 Minimum Wages Act to be Complied With** The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, **Gazette Notification 19.01.2017, S.O 188 (E) extra ordinary part 2 – sec. 3 (ii)** amended from time to time and rules framed there under and other labour laws affecting contract labour that may be brought into force from time to time.

This issues with the approval of DG CPWD.

Sahu 01.03.2024

(V.P. Sahu)

Superintending Engineer (C&M)

Issued from file No. CSQ/CM/17(1)/2023 e-file no. 9163323

To all the concerned officers of CPWD/PWD for information and necessary action please. (Through CPWD Website)

R.K. JAIN 01/3/2024

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

Central Public Works Department
Office Memorandum
No. DG/CON/Construction 2023/07
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI Dated: 01.03.2024

Subject: Modifications in Clause 7 of GCC 2023 for Construction Works

The following amendments is made in the GCC 2023 for Construction Works :

Existing provision	Modified provision
Clause 7 Payment on intermediate certificate to be regarded as Advances No payment shall be made for work, estimated to cost Rs. twenty lacs or less till after the whole of the work shall have been completed and certificate of completion given. ..... fixed for the same by the Engineer-in-Charge.	**Clause 7 Payment on intermediate certificate to be regarded as Advances** No change.
The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved.	The contractor shall not be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved.
No provision	**However, to expedite the progress of work, Engineer-in-Charge, on the request of contractor, may make interim payment(s) even before the net payment limit specified in schedule 'F' is achieved. In such case(s) no interest / compensation shall be recoverable from contractor.** **Such payment by Engineer-in-Charge shall not be construed as waiver of limit specified in schedule 'F' for subsequent interim payment(s).**

R.K. JAIN 01/03/2024
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, ... prescribed time limit.	**No Change**

This issues with the approval of DG CPWD.

01.03.2024
(V.P. Sahu)
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/17(1)/2023/Const. e-file no. 9135972

To all the concerned officers of CPWD/PWD for information and necessary action please. (Through CPWD Website)

01/03/2024
R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

Central Public Works Department
Office Memorandum
No. DG/CON/Construction 2023/08
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI Dated: 05.03.2024

Subject: Modifications in Clause 19 of GCC 2023 for Construction Works

The following amendments are made in the GCC 2023 for Construction Works:

Existing provision	Modified provision
Clause 19 Labour Laws to be complied by the Contractor	**Clause 19 Labour Laws to be complied by the Contractor**
The contractor shall comply with the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971.	**No change**
The contractor shall also obtain a valid licence under the said Act before the commencement of the work, and continue to have a valid licence until its completion.	**No change**
The contractor shall also comply with provisions of the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979.	**No change**
The contractor shall also abide by the provisions of the Child and Adolescent Labour (Prohibition and Regulation) Act, 1986, amended by Amendment Act No. 35 of 2016 and thereafter time to time.	**No change.**
The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.	**No change**

05/03/2024
R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

No provision	**The contractor shall also comply with the provisions of Sexual Harassment of Women at Workplace (Prevention Prohibition and Redressal) Act, 2013 and amendment thereafter time to time.**
Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.	Any failure to fulfil these requirements shall attract the penal provisions of **the relevant act and in** this contract
Clause 19 M **No Provision**	**Clause 19 M Sexual Harassment of Women at Workplace** **The contractor shall comply with all provision(s) and guideline(s) of Sexual Harassment of Women at Workplace (Prevention Prohibition and Redressal) Act, 2013 and amendment thereafter time to time or any other rules framed under any labour law affecting women worker(s).**

This issues with the approval of DG CPWD.

05.03.2024
(V.P. Sahu)
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/17(1)/2023 e-file no. 9163323

To all the concerned officers of CPWD/PWD for information and necessary action please. (Through CPWD Website)

05/03/2024
R.K. JAIN
(EE (Contact)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

Central Public Works Department

Office Memorandum

No. DG/CON/Construction 2023/09

ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI **Dated: 01.04.2024**

Subject: Modifications in Clause 1, 8 and 41 of GCC 2023 for Construction Works

The following amendments are made in the GCC 2023 for Construction Works:

Existing provision	Modified provision
Clause 1 Performance Guarantee Sl. No. (i) to (iv)	**Clause 1 Performance Guarantee** Sl. No. (i) to (iv) **No Change**
(v) On substantial Completion of any work which has been completed to such an extent that the intended purpose of the work is met and ready to use, then a provisional Completion certificate shall be recorded by the Engineer-in-Charge. The provisional certificate shall have appended with a list of outstanding balance item of work that need to be completed in accordance with the provisions of the contract.	(v) **As per requirement of the client or otherwise specified in the contract, part completion certificate may be issued for the building(s)/ infrastructure project for the part(s) which have been completed in all respect and are ready for use. However, statutory approvals, Completion drawing of various services, wherever required, shall be obtained before handing over of building(s)/ part(s) of the project. Scope of the completed part(s) shall be mentioned in such part completion certificate.**
This provisional completion certificate shall be recorded by the concerned Engineer- incharge with the approval of Superintending Engineer /Project Manager / Chief Engineer/ Chief Project Manager, if required. After recording of the provisional Completion Certificate for the work by the competent authority, the 80 % of performance guarantee shall be returned to the contractor, without any interest.	The **part completion** certificate shall **include** outstanding balance work that need to be completed in accordance with the provisions of the contract. This **part** completion certificate shall be recorded by the **authority as per contract value of work.** After recording of the **part** Completion Certificate for the work by the competent authority, the **proportionate amount of** 80% of performance guarantee shall be returned to the contractor, without any interest.
However in case of contracts involving Maintenance of building and services /any other work after construction of same building and services/ other work, then 40% of performance guarantee shall be returned to the contractor, without any interest after recording the provisional Completion certificate.	However in case of contracts involving Maintenance of building and services /any other work after construction of same building and services/ other work, then **proportionate amount of** 40% of performance guarantee shall be returned to the contractor, without any interest after recording the **part** Completion certificate.

R.K. JAIN 04/2024
EE (Contract)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

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Clause 8 Completion Certificate Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued.	**Clause 8 Completion Certificate** Within ten days of the completion of the work **or on part completion of one or more building(s) out of independent building in a project or infrastructure project, as per requirement of client or otherwise specified in schedule F,** the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and shall furnish the contractor with a **part or** final **completion** certificate **as the case may be,** indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates.
But no final certificate ..... sum actually realized by the sale thereof.	No change.
Clause 41 **Release of Security deposit after labour clearance** The Security Deposit ..... security deposit and refund the balance amount.	**Clause 41** **Release of Security deposit after labour clearance** No change.
No Provision	**In case, if part completion certificate of work is recorded then security deposit shall be released only after recording final completion certificate of the work and after completion of defect liability period whichever is later or specified otherwise in the contract.**

This issues with the approval of DG CPWD.

Sahu
01.04.2024
(V.P. Sahu)
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/17(1)/2023/Construction e-file 9163323

All CPWD and PWD officers for information and necessary action.(Through CPWD website)

R.K. JAIN 01/04/2024
EE (Contract)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

Central Public Works Department
Office Memorandum
No. DG/CON/Construction 2023/10
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD
NIRMAN BHAWAN, NEW DELHI **Dated:** 03-06-2024

Subject: Modifications in Clause 36 of GCC 2023 for Construction Works

The following amendment is made in the Clause 36 of GCC 2023 for Construction Works:

Existing provision	Modified provision
Clause 36 If relative working in CPWD then the contractor not allowed to tender The contractor shall not be *permitted* to tender for works in the CPWD circle *(Division in case of contractors of Horticulture/Nursery categories)* responsible for award and execution of contracts in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of the *Superintending Engineer* and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working *with him in any capacity* or are subsequently employed by him and who are near relatives to any *Gazetted* Officer in the *C.P.W.D. or in the Ministry of Housing and Urban Affairs.* Any breach of this condition by the contractor would render him liable to be *removed from the approved list of contractors of this Department. If however the contractor is registered in any other department, he shall be debarred from tendering in CPWD for any breach of this condition.*	**Clause 36 If relative working in CPWD then the contractor is not allowed to participate in the tendering process** The contractor **(enlisted or non-enlisted in CPWD)** shall not be **allowed** to **participate in the** tender for work(s) in the CPWD **Zone/**circle **/Division/Sub-Division** responsible for award and**/or** execution of contract**(s)** in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of the **Chief Engineer** and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working or are subsequently employed by him and who are near relatives to any Officer **working** in the **CPWD**. Any breach of this condition by the contractor would render him liable to be **debarred for a period upto two years from tendering in CPWD as decided by the accepting authority mentioned in Schedule F and his decision will be excepted from clause 25.**
NOTE: By the term "near relatives" is meant wife, husband, parents and grandparents, children and grandchildren, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.	No change.

This issues with the approval of DG, CPWD.

03.06.2024
(V.P. Sahu)
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/17(1)/2023/Construction **e-file 9135972**

All CPWD and PWD officers for information and necessary action. (Through CPWD website)

R.K. JAIN
EE (Contract)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

Central Public Works Department
Office Memorandum
No. DG/CON/Construction 2023/11
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD
NIRMAN BHAWAN, NEW DELHI Dated: 03-06-2024

Subject: Additions in 'General Rules and Directions' of GCC 2023 for Construction Works

The following additions are made in GCC 2023 for Construction Works under 'General Rules and Directions':

Existing provision	Modified provision
General Rules and Directions Sl. No. 1 to 16	**General Rules and Directions** No Change
No Provision	**17. Price Preference to SC/ST individual contractor for item rate/percentage rate tender:** **Price preference in quoted item rate/percentage rate tender shall be applicable to the individual enlisted/non-enlisted SC/ST contractor as under:-** i. **For work(s) upto and equal to an estimated cost of Rs.2.70 lakh a price preference upto 5% (with reference to the lowest valid tender) may be allowed in favor of individual SC/ST enlisted/non-enlisted contractor. No earnest money is required in such case(s).** ii. **For work(s) beyond an estimated cost of Rs. 2.70 lakh and upto and equal to estimated cost of Rs. 6.20 lakh, the price preference upto 5% (with reference to the lowest valid tender) may be allowed in favour of individual enlisted SC/ST contractor. However, earnest money at a reduced rate of ½% may be accepted in such cases.** iii. **The price preference upto 5% (with reference to the lowest valid price bid) may be allowed in favour of individual SC/ST contractor. The above concession shall be allowed only after proper verification of the individual contractor's claim of belonging to SC/ST community.**
Schedule F **No Provision**	**Schedule F** **Price Preference to SC/ST individual contractor is valid upto ..... (date)**

This issues with the approval of DG CPWD.

03.06.2024
(V.P. Sahu)
Superintending Engineer (C&M)

Issued from file No. CSQ/CM/17(1)/2023/Construction e-file 9163323
All CPWD and PWD officers for information and necessary action.(Through CPWD website)

03/06/2024
R.K. JAIN
EE (Contract)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/CON/Construction 2023/12
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI **Dated: 09.10.2024**

Subject: Modifications in Clause 10A of GCC 2023 for Construction Works

The following amendment is made in the Clause 10A of GCC 2023 for Construction Works:

Existing provision	Modified provision
Clause 10A Materials to be provided by the contractor The contractor shall ..... as specified in Schedule F.	**Clause 10A Materials to be provided by the contractor** **(i)** No Change
No Provision	**(ii) Maintenance of Material at Site (MAS) Register** **(a) MAS register of the key materials including Cement, Steel Bitumen, Paint, Primer, Distemper, Varnishes, Tile Adhesive, Admixture, Anti termite chemical Water proofing compound material and other items as required by Engineer-in-Charge, and shall be maintained as per proforma in Appendix-XX of GCC. All the entries in the MAS registers are made by the designated staff of the contractor and same is reviewed weekly by the authorized representative and fortnightly by the Engineer-in-Charge. However, contractor is responsible for maintenance and safe custody of MAS registers.**
(b) No provision	**(b)The self-attested copies of tax paid bill of all the materials entered in the MAS register shall be submitted by the contractor at the time of review by representative of Engineer-in-Charge. In case of any doubt, genuineness of the tax paid bills; it can be verified by the representative of the Engineer-in-Charge or the Engineer-in-Charge, however, onus of genuineness of tax paid bills rest with the contractor.**

09.10.24
R K SINGH
EE(Manual)

1/2

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

Appendix-XX

REGISTER OF MATERIAL AT SITE (MAS)

1. **Division/Sub-division** .....
2. **Name of Work** .....
3. **Name of Article/Item** .....
4. **Estimated Requirements** .....

S. No.	Date of Receipts (Details of Challans/ Bills, Specific location wherePlants and Materials received/ Vehicle No.	Received from/ Issued to	Quantity Received	Date of issue	Specific location where Plants& Materials Displayed / Delivered / issued	Quantity Issued	Balance Quantity	Signature of authorized representative of contractor	Signature of authorized representative of Engineer-in-Charge/ AE/EE/	Remarks
1	2	3	4	5	6	7	8		9	10

This issues with the approval of DG, CPWD.

(दिनेश कुमार उज्जैनिया)
अधीक्षण अभियंता (सी.एंड एम.)

Issued from file No. CSQ/CM/17(1)/ Construction/2024
e-file 9184028 (DFA//9301389)
केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।
(केलोनिवि वेबसाईट के माध्यम से)

09.10.24
R K SINGH
EE(Manual)

2/2

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/CON/Construction-2023/13

ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Nirman Bhawan, New Delhi Dated: 29.10.2024

Subject: Modifications in Conditions of Contract, Clause 10A of GCC Construction Works 2023.

Following amendments are made in the GCC Construction Works 2023:-

Existing Provision	Modified Provision
Clause 10A: Materials to be provided by the Contractor (i) The contractor shall, ... thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.	**No Change**
The contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in schedule F.	**Field Laboratory:** The contractor shall at his own expense, setup a material testing lab equipped with the testing equipment as specified in schedule F at site for conducting routine field test.
No Provision	**External Laboratory: Letter for submitting sample(s) for testing of material shall be sent through e-mail to the Lab by authorized representative of Engineer-in-Charge or Engineer-in-Charge of the work along with name(s) of test(s) to be done on the material.** **The contractor shall collect the sample(s) from the site and submit it to the lab; make necessary payment for the testing charges. He will inform on the same day through email to authorized representative of Engineer-in-Charge and Engineer-in-Charge regarding submission of sample (s) and**

1

29.10.24
R K SINGH
EE(Manual)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

No Provision	**payment made to the lab. If he either fails to collect or submit the sample(s) to the lab within 03 days or in time as prescribed in the specifications, whichever is earlier, the Engineer-in-Charge shall collect and submit the sample(s) and make necessary payment for testing charges to the lab. In such case, Engineer-in-Charge shall make recovery on account of collection and submission of sample(s) to the lab and paid testing charges etc. from the next R/A bill / Final bill of the contractor. This action of Engineer-in-Charge shall be final and binding.** **If the contractor fails three times in collection and/or submitting sample(s) and/or fails to make payment for testing charges, the contractor shall be debarred from tendering in CPWD for a period of two years.**
Sl. no. (ii) (a) and (b)	**No change**

This OM is applicable for all NITs uploaded after date of issue of this OM.

This is issued with the approval of DG CPWD.

29/10/24

(दिनेश कुमार उज्जैनिया)
अधीक्षण अभियंता (सी.एंड एम.)

Issued from file No. CSQ/CM/17(1)/2024/Construction e-file- 9184436 (DFA/9303295)

केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।

(केलोनिवि वेबसाईट के माध्यम से)

29.10.24

R K SINGH
EE(Manual)

2

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/CON/Construction 2023/14
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI **Dated: 03.01.2025**

Subject: Modifications in General Rules and Directions of GCC 2023 for Construction Works.

The following amendments are made in the General Rules and Directions of GCC 2023 for Construction Works:

Existing provision	Modified provision
Applicable for Item Rate Tender only (CPWD - 8) 4 The rates ..... rupee one. In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, then such lowest contractors may be asked to submit sealed revised offer quoting rate of each item of the schedule of quantity for all sub sections/sub heads as the case may be, but the revised quoted rate of each item of schedule of quantity for all sub sections/sub heads should not be higher than their respective original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer. If the revised ..... their tenders. In case of any ..... be forfeited. In case all ..... lowest contractors. Contractor ..... of the work.	**Applicable for Item Rate Tender only (CPWD - 8)** 4 No change In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, then such lowest contractors may be asked to submit **revised price bid online using e-tender website,** quoting rate of each item of the schedule of quantity for all sub sections/sub heads as the case may be, **on the revised template which has been sent to them by the Tender Inviting Authority (TIA)**, but the revised quoted rate of each item of schedule of quantity for all sub sections/sub heads should not be higher than their respective original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer. No change
Applicable for Percentage Rate Tender only [CPWD- 7] 4B In case the lowest tendered amount (estimated cost ± amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer in the form of letter mentioning percentage above/ below on estimated cost of tender including all sub sections/sub	**Applicable for Percentage Rate Tender only [CPWD- 7]** 4B In case the lowest tendered amount (estimated cost ± amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit **revised price bid online quoting** percentage above/ below on estimated cost of tender including all sub sections/sub heads as the case may

03.01.25
R K SINGH
EE(Manual)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

CPWD

heads as the case may be, but the revised percentage quoted above/below on tendered cost or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers.	be **on the revised template which has been sent to them by the Tender Inviting Authority (TIA)**, but the revised percentage quoted above/below on tendered cost or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers.
In case of any ..... be forfeited. If the revised ..... their tenders. In case all ..... process of the work.	No change

This issues with the approval of DG, CPWD.

(दिनेश कुमार उज्जैनिया)
अधीक्षण अभियंता (सी.एंड एम.)

Issued from file No. CSQ/CM/17(1)/ Construction/2024
e-file 9185053 (DFA/9307326)

केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।
(केलोनिवि वेबसाईट के माध्यम से)

03.01.25
R K SINGH
EE(Manual)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/CON/ Construction 2023/15
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI **Dated: 31.01.2025**

Subject: Modifications in Clause 7A of GCC 2023 for Construction Works.

The following amendments are made in the Clause 7A of GCC 2023 for Construction Works:

Existing provision	Modified provision
Clause 7A No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-Charge.	**Clause 7A** **(a)** No Running Account Bill/**Final Bill** shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-Charge. **(b) The following documents shall also be part of the bill submitted by the contractor (these documents shall be owned by the contractor) before making payment:-** **1. Details of person employed with date of their employment up to previous month.** **2. Documents of payment made to the employees directly into their bank accounts up to previous month.** **3. Documents of attendance through biometric attendance or other mode up to previous month.** **4. Documents of deposition of EPF and ESI deductions in the employee's accounts up to previous month.** **5. Any penalty imposed on the agency for delay in disbursing payment and deposition of EPF and ESI deductions in the employee's accounts up to previous month.** **6. Any other document(s) required as per statutory requirements and/or as directed by Engineer-in-Charge.** **(c) In case, any of the documents submitted by the contractor is found false/forged at a later date, action for debarment of contractor will be taken by the SE/CE concerned.**

This issues with the approval of DG, CPWD.

31/1/25

(दिनेश कुमार उज्जैनिया)
अधीक्षण अभियंता (सी.एंड एम.)

Issued from file No. CSQ/CM/17(1)/2023/Construction e-file 9184028 (DFA/9313089)
केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।
(केलोनिवि वेबसाईट के माध्यम से)

31.1.25
R K SINGH
EE(Manual)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/CON/Construction 2023/16
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD
NIRMAN BHAWAN, NEW DELHI **Dated: 10.02.2025**

Subject: Modifications in Clauses 7, 8, 9 and Schedule F of clause 8 of GCC 2023 for Construction Works.

The following amendments are made in the Clauses 7, 8, 9 and Schedule F of clause 8 of GCC 2023 for Construction Works:

Existing provision	Modified provision
Clause 7 Existing provisions No provision	**Clause 7** No change **In case of correction / rejection / short documents, it will be mandatory for Engineer-in- Charge to give recorded reasons for correction / rejection / submission of additional documents within seven days after submission of running bill by the contractor.**
Clause 8 Completion Certificate (Issued vide OM No. DG/Construction-2023/09 dated 01.04.2024) Within ten days of the completion of the work or on part completion of one or more building(s) out of independent building in a project or infrastructure project, as per requirement of client or otherwise specified in schedule F, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and shall furnish the contractor with a part or final completion certificate as the case may be, indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates.	**Clause 8 Completion Certificate** Within ten days of the completion of the work or on part completion of one or more building(s) out of independent building in a project or infrastructure project, as per requirement of client or otherwise specified in schedule F, the contractor shall give notice of such completion to the Engineer-in-Charge and **the Engineer-in-Charge, within seven days of receipt of intimation of completion from contractor will inspect the work and satisfy himself about completion of part /full work, then intimate to the concerned authorities as mentioned in Schedule F for inspection and issuance of part / final completion certificate. The concerned authorities will inspect the work and issue part/final completion certificate within** thirty days of the receipt of such **intimation.** The Engineer-in-Charge shall furnish **to** the contractor a part **/** final completion certificate as the case may be, indicating defects (a) to

10.2.25
R K SINGH
EE(Manual)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	be rectified by the contractor and/or (b) for which payment will be made at reduced rates.
But no final certificate ..... sum actually realized by the sale thereof.	**No change.**
Clause 9 Payment of Final Bill The final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within the period of three months the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized Asstt. Engineer, complete with account of materials issued by the Department and dismantled materials. 10.2.25 R K SINGH EE(Manual)	**Clause 9 Payment of Final Bill** i. The final bill shall be submitted by the contractor **to the Engineer-in-Charge** in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final **completion** certificate furnished by the Engineer-in-Charge whichever is earlier. **At the time of submission of the final bill, receipt will be given by the O/o Engineer-in-Charge.** ii. **In case of correction / rejection / short documents, it will be mandatory for Engineer-in- Charge to give recorded reasons for correction / rejection / submission of additional documents within fifteen days after submission of final measurement and/or final bill by the contractor.** iii. **Final bill will be accepted with all pre-requisite documents such as sanctioned copies of extra items and deviation in quantities, escalation statements, recovery statement, theoretical statement, final completion certificate, final extension of time case, mandatory tests statement, dismantled materials account and other documents as mentioned in clause 7A etc.** iv. **An undertaking alongwith the final bill will be submitted by the contractor that "I / we hereby undertake that all the measurements/claims payable under this contract have been included in the final bill and will not submit any other bill/claims in future under this agreement thereafter".** v. No further claims shall be **entertained from** the contractor after submission of the final bill and these shall be deemed to have been waived **off** and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer in charge will, be made within the

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

If the final bill is submitted by the contractor within the period specified above and delay in payment of final bills is made by the department after prescribed time limit, a simple interest @ 5 % (five percent) per annum shall be paid to the contractor from the date of expiry of prescribed time limit, provided the final bill submitted by the contractor is found to be in order.	period of three months. The period **of three months will be** reckoned from the date of receipt of the bill **in complete shape after necessary corrections / additional documents,** by the Engineer-in-Charge. **vi. In case of foreclosure / determination of contract, if the contractor fails to submit the EOT case, final measurement /bills within 30 days of foreclosure/ determination, the EOT case and final bill will be prepared and decided by the department. The final bill shall only be paid after withholding amount equivalent to maximum compensation to be levied on the contractor.** **vii.** If the final bill, **in complete shape,** is submitted by the contractor within the period specified above and delay in payment of final bill is made by the department after prescribed time limit, a simple interest @5% (five percent) per annum **may** be paid to the contractor from the date of expiry of prescribed time limit, provided the final bill submitted by the contractor **contains all the documents as mentioned in para – (iii) & (iv) above.** .
Schedule F **Clause 8** No Provision	**Schedule F** **Clause 8** **Competent Authorities to inspect and issue part / final completion certificate .....** **(To be filled by NIT approving authority).**

This issues with the approval of DG, CPWD.

10.2.25

(दिनेश कुमार उज्जैनिया)
अधीक्षण अभियंता (सी.एंड एम.)

Issued from file No. CSQ/CM/17(1)/2025/Construction
e-file 9190123 (DFA/9315615)
केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।
(केलोनिवि वेबसाईट के माध्यम से)

10.2.25
R K SINGH
EE(Manual)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/CON/ Construction 2023/17
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI Dated: 03.03.2025

Subject: Modifications in Clause 14 of GCC 2023 for Construction Works 2023.

The following amendments are made in the Clause 14 of GCC 2023 for Construction Works 2023:

Existing provision	Modified provision
Clause 14 Carrying out part work at risk & cost of contractor If contractor: (iii) The Engineer- in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to Government, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to : (a) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or (b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.	**Clause 14 Carrying out part work at risk & cost of contractor** If contractor: (iii) The Engineer- in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to Government, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to : (a) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or (b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor. **The contractor, from whom a part work / part incomplete work of any item(s), has been taken out of his hands, shall not be allowed to participate in the tendering/quotation process of part work / part incomplete work of any item(s).**

This issues with the approval of DG, CPWD.

03.03.25
(आर. के. सिंह)
कार्यपालक अभियन्ता (एम.)

Issued from file No. CSQ/CM/17(1)/2023/Construction e-file-9184028 (DFA/9319526)
केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।
(केलोनिवि वेबसाईट के माध्यम से)

R K SINGH
EE(Manual)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/CON/ Construction 2023/18
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI **Dated: 16.06.2025**

Subject: Modifications in Clause 25.2(b) and 25.6 of GCC 2023 for Construction Works.

The following amendments are made in the Clause 25.2(b) and 25.6 of GCC 2023 for Construction Works:

Existing provision	Modified provision
Clause 25.2 **(b) Qualification of Arbitrators**: It is a term of this contract that each member of the Arbitral Tribunal shall be Graduate Engineer with experience in execution of public works engineering contracts, and he should have worked earlier at a level not lower than the Chief Engineer (equivalent to level of Joint Secretary to the Government of India). The aforesaid educational qualification and work experience shall be mandatory for appointment as Arbitrator. The age of Arbitrator at the time of appointment shall not exceed 75 years. An Arbitrator may be appointed notwithstanding the total number of active arbitration cases with him.	**Clause 25.2** **(b) Qualification of Arbitrators**: It is a term of this contract that each member of the Arbitral Tribunal shall be Graduate Engineer **(in Civil or Electrical or Mechanical Engineering)** with experience in execution of public works engineering contracts and he should have worked earlier at a level not lower than the SAG **(Level 14 of 7th CPC)** of the Government of India). The aforesaid educational qualification and work experience shall be mandatory for appointment as Arbitrator. The age of Arbitrator at the time of appointment shall not exceed **70 years**.
Clause 25.6 **Fee payable to Arbitrator(s):** The fee payable to the arbitral tribunal shall be as per CPWD OM No.2/2006/SE(TLC)/ CSQ/137 dated 19.11.2019 (or latest amendment), and shall be shared equally by both the parties.	**Clause 25.6** **Fee payable to Arbitrator(s) for arbitration cases, shall be as per the fee given in the fourth schedule of the Arbitration & Conciliation Act, 1996** (or latest amendment), and shall be shared equally by both the parties.

This issues with the approval of DG, CPWD.

16/06/2025
(चन्द्र पाल)
अधीक्षण अभियंता (सी. एंड एम.)

Issued from file No. CSQ/CM/17(1)/2025 / Construction e-file 9135700 (TLC File)
केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।
(केलोनिवि वेबसाईट के माध्यम से)

16.06.25
R K SINGH
EE(Manual)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग

कार्यालय ज्ञापन

No. DG/CON/Construction-2023/19

ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Nirman Bhawan, New Delhi Dated: 06.11.2025

Subject: Modification of Clause 19L of GCC-2023 for Construction Works.

The clause 19L in GCC-2023 for Construction Works is being modified:

Existing Provision	Modified Provision
Clause 19 L: Contribution of EPF and ESI The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis. The verification of deployment labour will be done through biometric attendance system or any other suitable method by the Engineer in Charge. The applicable and eligible amount of EPF & ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order	**Clause 19 L: Contribution of EPF and ESI** **It will be mandatory for all the agencies to register with ESI and EPFO departments within 30 days of the award of the work unless exempted by the provisions of ESI and / or EPFO and as amended time to time.** The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis. The verification of deploy**ed** labour will be done through biometric attendance system or any other suitable method by the Engineer in Charge. **The agency shall submit an affidavit on a stamp paper of Rs. 100 that the employees were engaged fully and exclusively on the work for which the claim is being made.** The applicable and eligible amount of EPF & ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order

This is issued with the approval of DG CPWD.

06.11.2025

(चन्द्र पाल)

अधीक्षण अभियंता (सी एंड एम)

चन्द्र पाल, अधी. अभि. (सी एंड एम.)
Chander Pal, SE (C&M)

Issued from file No. CSQ/CM/17(1)/2024/ Construction **e-file 9195855 (DFA/9350595)**

के.लो.नि.वि. तथा लो.नि.वि. दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु (के.लो.नि.वि.वेबसाईट के माध्यम से)।

6/11/25

D.P. Jindal
EE (Contract)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग

कार्यालय ज्ञापन

No. DG/CON/Misc/46

ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Nirman Bhawan, New Delhi Dated:18.11.2025

Subject: Advisory on release of security deposit.

There are some instances of non-adherence to mandatory provisions of withholding the dues from the same contract or other contracts, in the cases when any amount is due to be recovered from the contractor before releasing of the security deposit and other dues payable to the contractor as per the provisions of the GCCs.

The relevant provisions exist in clause 29 of the CPWD GCC Construction Works 2023 and GCC Maintenance Works 2023. The same provisions exist in Clause 27 and Clause 28 of CPWD GCC EPC Projects 2024 in respect of deductions / recoveries of the dues from the contractors before releasing of the security deposits and other dues, by the Engineer- in-charge.

All concerned field units are advised to strictly adhere to the above provisions of GCCs.

This issues with the approval of competent authority.

18.11.2025

(चन्द्र पाल)
अधीक्षण अभियन्ता (सी० एंड एम०)

चन्द्र पाल, अधी. अभि. (सी. एण्ड एम.)
Chander Pal, SE (C&M)

Issued from file No. CSQ/CM/17(1)/2025/GCC

To,
All the officers of CPWD and PWD Delhi for information and necessary action please. (Through CPWD website)

18/11/25

D.P. Jindal
EE (Contract)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/CON/Construction 2023/20
ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

VIDYUT BHAWAN, NEW DELHI Dated: 27.02.2026

Subject: Modifications in General Rules & Directions, Clause 1 and Schedule E of GCC 2023 Construction Works

The following modifications are made in the General Rules & Directions, Clause 1 and Schedule E of GCC 2023 Construction Works.

Existing provision	Modified provision
General Rules & Directions 11 (i) The Contractor whose tender is accepted, will be required to furnish performance guarantee at specified percentage of the tendered amount as mentioned in Schedule 'E' and within the period specified in Schedule F.	**General Rules & Directions** 11 (i) The Contractor whose tender is accepted, will be required to furnish performance guarantee as mentioned in Schedule 'E' and within the period specified in Schedule F. .....
Clause 1 **Performance Guarantee** (i) The contractor shall submit an irrevocable Performance Guarantee at specified percentage of the tendered amount as mentioned in Schedule 'E', in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance.	**Clause 1** **Performance Guarantee** (i) The contractor shall submit an irrevocable Performance Guarantee as mentioned in Schedule 'E', in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance. .....
Sl. No. (ii) to (v)	No change
SCHEDULE 'E' Reference to General Conditions of contract Sl. No. (i)	**SCHEDULE 'E'** Reference to General Conditions of contract No change

27/2/26
EE(C)
D.P. Jindal
EE (Contract)

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

PART – C

CPWD

PROFORMA OF SCHEDULES

(Elect. Works)

SCHEDULE 'A'

Schedule of Quantities **As per NIT**

SCHEDULE 'D'

Extra schedule for specific requirements/document for the work, if any: **Not Applicable**

SCHEDULE 'E'

Reference to General Conditions of contract	**Applicable GCC is General Conditions of contract Construction works 2023, as modified and corrected upto previous day of the last date of submission of the tender.**	
Name of Work:	**Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.**	
Estimated cost of the work:	Civil Items of Work	Part-A
	Electrical item of work	Rs. 1,47,89,205/-
	Horticulture Items of Work	Part-D
Earnest money		Included in Civil component
Performance Guarantee		**As per schedule 'E', Part-A**
Security Deposit		**2.5% of the tendered value of the work**

SCHEDULE 'F'
General rules and direction

Officer inviting tender	**Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok.**

Definitions:

2(vi)	**Engineer-in-Charge**	
	For Civil & Horticulture items of work	**Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok or successor thereof**
	For Electrical items of work	**Executive Engineer (E), Siliguri Central Electrical Division, C.P.W.D., Siliguri or successor thereof**
2(viii)	Accepting Authority	**Superintending Engineer, Siliguri, CPWD or successor thereof**
2(x)	Percentage on cost of materials and labour to cover all overheads and profits	**15% Over Head charges and Contractor's Profit on analysis of rates as per CPWD Delhi Analysis of Rates (DAR)**

2(x)(b)	**Standard Schedule of Rates:**	
	Civil Items of Work:	D.S.R. 2023 with correction slips upto previous day of the last date of submission of the tender.
	Electrical Items of Work:	DSR (E&M) 2025 & Market Rate with correction slips upto previous day of the last date of submission of the tender.
2(xi)	Department:	Central Public Works Department
9(ii)	Standard CPWD contract Form:	**General Conditions of contract Construction works 2023, CPWD Form 7 as modified and corrected upto previous day of the last date of submission of the tender.**

Clause 1	iii) Time allowed for submission of Performance Guarantee, **Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof** from the date of issue of letter of acceptance	7 Days
	iv) Maximum allowable extension **with late fee @ 0.1% per day of Performance Guarantee amount beyond the period as provided in (i) above**	3 Days
Clause 2	Authority for fixing Compensation under Clause 2	**Superintending Engineer, Siliguri, CPWD Or successor thereof**

Clause 5	Number of days from the date of issue of letter of acceptance for reckoning date of start	**10 Days**
	Mile stone(s)-	As per Part-A
In the event of not achieving the necessary milestones as assessed from mile stone chart, applicable % of the tendered value of work will be withheld for failure of respective mile stone.		

Time allowed for execution of work		**18 Months**
Authority to decide		
(i)	Authority to convey the decision of shifting of milestone and extension of time	Executive Engineer (Civil), Gangtok Central Division, C.P.W.D., Gangtok or successor thereof
(ii)	Authority to decide rescheduling of milestone and extension of time	Superintending Engineer, Siliguri, CPWD or successor thereof

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

(iii)	Shifting of date of start in case of delay in handing over of site	Superintending Engineer, Siliguri, CPWD or successor thereof

PROFORMA OF SCHEDULE Clause 5 Schedule of handing over of site

Part	Portion of Site	Description	Time Period for handing over reckoned from date of issue of letter of intent
Part A	Portion without any hindrance	As per part -A	
Part B	Portions with encumbrances		
Part C	Portions dependent on work of other agencies		
Clause 6	Mode of Measurement: - Computerized Measurement Book (CMB) / Electronic Measurement Book (EMB)		**Electronic Measurement Book (EMB)**
Clause 7	Gross work to be done together with net payment/Adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment		**10.00 lakhs**
Clause 7A	**Whether Clause 7A shall be applicable**		**Yes**
Clause 8	**Competent authorities inspect & issue part / final completion certificate.**		
	(a) Final completion certificate		Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok or successor thereof
	(b) Minor works (E&M) completion certificate		Executive Engineer (E), Siliguri Central Electrical Division, C.P.W.D., Siliguri or successor thereof
Clause 10A	List of testing equipment to be provided by the contractor at site lab.		As per NIT
Clause - 10B(ii)	Whether clause 10B (ii) shall be applicable.		No.
Clause 10C	Component of labour expressed as percentage of value of work.		**Not Applicable**
Clause 10CC			As per Part-A

Clause 11	**Specification to be followed for execution of work**:
For Electrical items of work	CPWD General specification for Electrical Works, Part-I (Internal) 2023; Part-II (External)-2023, Part-V (wet riser and sprinkler system)-2020, Part-VI (Fire Detection & Alarm System)-2018, Part-VII (DG Set)-2013, Part-VIII (Fire Extinguisher)-2013, with correction slips up to day previous to last date of submission of tender.

Clause 12		
	Type of work: -	Construction work
12.2(c)	Deviation Limit beyond which clauses 12.2(c) shall apply for building work	100%
(i)	Deviation limit beyond which clauses 12.2(c) shall apply for foundation work (except items mentioned in earthwork subhead in DSR and related items)	100%
(ii)	Deviation limit for items mentioned in earthwork subhead of DSR and related items	100%

Clause 16	**Competent Authority for Deciding reduced rates:**	
	For Electrical items of work	Superintending Engineer (Siliguri), CPWD **Or successor thereof**
Clause 18	List of mandatory machinery, tools & plants to be deployed by the contractor at site.	**As per relevant pages of NIT**
Clause 19C	Authority to decide for each default	**Engineer-in-Charge**
Clause 19D	Authority to decide for each default	**Engineer-in-Charge**
Clause 19G	Authority to decide for each default	**Engineer-in-Charge**
Clause 19K	Authority to decide for each default	**Engineer-in-Charge**

Clause 25	As per Part-A

Clause 32		As per Part-A	
Clause 38			
i)	a)	Schedule/ statement for determining theoretical quantity of Materials on the basis of Delhi Schedule of Rates 2025 (E&M) published by CPWD	**D.S.R. 2025 (E&M) with correction slips upto previous day of the last date of submission of the tender.**

CPWD

Eligibility Criteria for E&M Associate Firms /Items which are to be executed through specialized agency

Name of Work: *Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.*

The composite/ B&R category contractor shall have to associate other agencies for execution of this work, which fulfills the eligibility criteria mentioned below during last7(seven) years last day of month previous to the one in which tenders are invited. However, the composite/ B&R category contractor shall also be eligible to carry out the work himself without associating any specialized agency, provided he fulfills the following eligibility criteria

Sl No.	Description / Type of work	The firm should be	Estimated cost put to tender for the component	Similar Work Definition	Remarks
	1	2	3	4	5
1	EPABX, CCTV & LAN System	Specialized agency with appropriate experience credentials as specified under : Three similar works each of value not less than 40% of the estimated cost put to tender for the component Or Two similar works each of value not less than 60% of the estimated cost put to tender for the component Or One similar works of value not less than 80% of the estimated cost put to tender for the component.	45,32567/-	"Similar Work Shall mean Supply, Installation, Testing & Commissioning of EPABX, CCTV & LAN System" under one agreement.	The firm should submit details of experience, credentials & other necessary documents as required by department for approval.
2	UPS System	Specialized agency with appropriate experience credentials as specified under : Three similar works each of value not less than 40% of the estimated cost put to tender for the component Or Two similar works each of value not less than 60% of the estimated cost put to tender for the component Or	2,98,717/-	"Similar Work Shall mean Supply, Installation, Testing & Commissioning of UPS System" under one agreement.	The firm should submit details of experience, credentials & other necessary documents as required by department for approval.

		One similar works of value not less than 80% of the estimated cost put to tender for the component.			
3	DG Set	Specialized agency with appropriate experience 80% of the rated capacity of credentials as specified under : Three similar works each of value not less than 40% of the estimated cost put to tender for the component Or Two similar works each of value not less than 60% of the estimated cost put to tender for the component Or One similar works of value not less than 80% of the estimated cost put to tender for the component.	7,61,717/-	"Similar Work Shall mean Supply, Installation, Testing & Commissioning of DG Set" under one agreement.	The firm should submit details of experience, credentials & other necessary documents as required by department for approval.
4	Fire Alarm & PA System	Specialized agency with appropriate experience credentials as specified under : Three similar works each of value not less than 40% of the estimated cost put to tender for the component Or Two similar works each of value not less than 60% of the estimated cost put to tender for the component Or One similar works of value not less than 80% of the estimated cost put to tender for the component.	10,34,940/-	"Similar Work Shall mean Supply, Installation, Testing & Commissioning of Fire Alarm & PA System" under one agreement.	The firm should submit details of experience, credentials & other necessary documents as required by department for approval.
5	Fire Fighting System	Specialized agency with appropriate experience credentials as specified under : Three similar works each of value not less than 40% of the estimated cost put to tender for the component Or Two similar works each of value not less than 60% of the estimated cost put to tender for the component Or One similar works of value not	9,71,879/-	"Similar Work Shall mean Supply, Installation, Testing & Commissioning of Fire Fighting System" under one agreement.	The firm should submit details of experience, credentials & other necessary documents as required by department for approval.

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

		less than 80% of the estimated cost put to tender for the component.			
6	Solar PV Power Generation System & Solar Water Heater	Specialized agency with appropriate experience credentials as specified under : Three similar works each of value not less than 40% of the estimated cost put to tender for the component Or Two similar works each of value not less than 60% of the estimated cost put to tender for the component Or One similar works of value not less than 80% of the estimated cost put to tender for the component.	14,74,788/-	"Similar Work Shall mean Supply, Installation, Testing & Commissioning of Solar Photo Voltaic Power Generation System" under one agreement.	The firm should submit details of experience, credentials & other necessary documents as required by department for approval.
The Buildings & Roads category contractor is also be eligible to carry out himself/herself the DG set work without associating any specialized agency provided: (a) He fulfils the prescribed eligibility criteria specified for the DG set work **OR** (b) He directly procures the equipment of approved make from manufacturer and gets it installed from authorized agency/service provider of the manufacturer or specialized agency which meets the criteria specified for the DG set work					

- The values of executed work shall be brought to current costing level by enhancing the actual value of work at simple rate of interest of 7% per annum, calculated from the date of completion to the last date of submission of bid. Cost of components of work executed other than those mentioned in definition of similar work shall be deducted while arriving at the value of similar work for eligibility. Associate Contractor shall submit self-certified abstract of cost of similar components along with supporting documents.
- The decision of the Department in approval of associate agency shall be final and binding on the contractor.

Under taking:- *The lowest tenderer will have to submit, after the award of tender, an undertaking from the OEM for UPS, DG set Fire Fighting System, Fire Alarm System, Solar photo voltaic power generation system, Solar Water heating system, Lift, VRV/VRF system and LAN, CCTV, EPBAX System regarding:*

(a) Authorization certificate.
(b) The OEM is unconditionally support the lowest tenderer technically throughout the execution of contract as well as for Maintenance/Comprehensive Maintenance Contract for the useful life of the system, and
(c) OEM provides all the spares required for healthy functioning of the equipment for at least seven years from the date of supply of equipment.

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

SPECIAL CONDITIONS

The 1st lowest tenderer have to submit the following documents for association of electrical contractor / specialized E&M works at least 7 days after to depositing performance guarantee.

1. The applicant should submit the willingness from an eligible electrical contractor to get associated with the applicant for execution of the electrical component of works in wholesome manner and as per the conditions set out in the MOU to be entered into, between the one who is awarded the work and the associated eligible electrical contractor.
2. In support of the eligibility conditions of the proposed associated electrical contractor, copy of their registration documents, Electrical Contractor's License, GST Documents duly attested by the applicants (Main Contractor) shall be submitted to the EE(E). Each such electrical contractor will certify that they are not debarred as on the day of application for sale of tender.
3. The main contractor will submit MOU signed on non-judicial paper with eligible registered electrical contractor of CPWD) only. The MOU in the enclosed form shall be signed by both the parties i.e. main contractor as 1st party and associated electrical contractor as 2nd party.
4. In the event of the concerned E&M agency not performing satisfactorily or failure of associate sub-contractor to complete the E&M work, the main contractor on the written direction of the department, shall remove the Associate/sub-contractor deployed on the work and shall submit name of new associate who fulfill the conditions mentioned in NIT to execute the leftover work without any loss of time or variation in cost to the department in this regard. Such associates shall also enter into tripartite Agreement/Contract along with the main tenderer and the departmental officer and shall meet all the guarantee for the equipment's already supplied for which payment has been released by the Deptt. in part. If any equipment supplied for the work, during the currency of the earlier Associate/sub-contractor and paid partly by the Deptt. ,becomes redundant /not in a position to be installed and commissioned and put to beneficial use due to change in agency for execution of E&M work, the main contractor shall be liable for replacement of the equipment(s) at no cost to Department. No change of Electrical Contractor will be allowed without prior approval of the Superintending Engineer, Siliguri.
5. Executive Engineer (E) shall be the Engineer-in-charge as far as electrical works are concerned. Separate tender schedule abbreviated CPWD-7 and Special Conditions for Electrical Work are appended with this tender It will be obligatory on the part of the contractor/tenderer to sign the tender documents for all the component parts.
6. The main contractor shall be responsible and liable for proper and complete execution of the Electrical work and ensure coordination and completion of both civil and electrical work.
7. The associate or sub-contractor shall sign a tripartite Agreement/Contract along with the main tenderer and the departmental officer, for technical compliance of specification, guarantee etc.
8. The associate or sub-contractor shall attend the inspection of the work by the Engineer-in-Charge of E&M works as and when required.

CPWD

MEMORANDUM OF UNDERSTANDING [M.O.U] BETWEEN

(TO BE SUBMITTED BEFORE START OF WORK)

1] M/S [Name of the firm with full address)
Enlistment Status
Valid Upto:
[Henceforth called the main contractor]
And

2] M/S [Name of the firm with full address)
Enlistment Status
Valid Upto:
[Henceforth, called Associated Electrical Contractor or Electrical Contractor]

Name of Work:- Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.

of an estimated cost of **Rs. 1,47,89,205.00** as per schedule, specifications, terms and conditions of the tender.

We state that M.O. U's. between us will be treated as an agreement and has legality as per Indian Contract Act (amended up to date) and the department (CPWD) can enforce all the terms and conditions of the agreement for execution of the above work. Both of us shall be responsible for the execution of work as per the agreement to the extent of these MOU allows.

We have agreed as under:

1. The associated electrical contractor will execute all electrical works in the wholesome manner as per terms and conditions of the agreement. Any type of internal transaction between the electrical contractor and main contractor shall be as per their convenience and mutual understanding without involving the department. Security deposit shall be deducted as per agreement.
2. The electrical contractor shall be liable for disciplinary action and other legal actions as per agreement if he fails to discharge obligation as per this agreement besides forfeiture of the security deposit.
3. All the machinery and equipment, tools and tackles required for execution of the electrical works. As per agreement shall be the responsibility of the electrical contractor.
4. The site staff required for the electrical work shall be arranged by the electrical contractor as per terms and conditions of the agreement.

SIGNATURE OF MAIN CONTRACTOR

SIGNATURE OF ASSOCIATED ELECTRICAL CONTRACTOR

Date

Date

Place

Place

WILLINGNESS CERTIFICATE
(To be submitted before start of work)

Name of Work: Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.

I hereby give my willingness to work as electrical contractor for the above mentioned work.

I will execute the work as per specifications and conditions for the agreement and as per direction of the Engineer-in-charge. Also I will employee full time technically qualified supervisor for the works. I will attend inspection of officers of the department as and when required.

Date: **Signature of Contractor**

CPWD

CERTIFICATE FROM CONCERNED CONTRACTOR HAVING VALID ELECTRICAL LICENSE OF ELIGIBLE CLASS

Name of Work: - *Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.*

Undertaking that "I/ We will either obtain valid electrical license at the time of execution of electrical work or associate contractor having valid electrical license of eligible class".

Date **Signature of Contractor**

ADDITIONAL CONDITIONS OF CONTRACT AND SPECIFICATIONS FOR E & M WORKS FOR "Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.".

1.0 GENERAL AND COMMERCIAL CONDITIONS:

1.1 This section covers the various commercial conditions applicable and to be read in connection with the conditions of contract of the standard form (CPWD-7) of the department (CPWD) forming part of the tender papers. In the event of any discrepancy between these two, the requirements of the former will be followed.

1.2 These additional conditions and additional specifications are applicable to all E&M works in general. For specific tenders some of the E&M services may not be a part of the particular tender. In such cases the conditions and specifications which are not related to the works or components thereof mentioned in the schedule of work shall not apply for that particular tender.

1.3 All the E & M works shall be carried out as per direction and to the entire satisfaction of the Engineer-in-charge.

1.4 Unless otherwise specified in the following conditions, the work shall, in general, be carried out as per following specifications:

a) CPWD General Specifications for Electrical Works – Part-I (Internal), 2023 amended up to date.
b) CPWD General Specifications for Electrical Works – Part-II (External), 2023 amended up to date.
c) CPWD General Specification for Electrical Works-Part-V (Wet Riser & Sprinkler systems)-2020.
d) CPWD General Specification for Electrical Works-Part-VI (Fire Detection and Alarm systems)-2018.
e) CPWD General Specification for electrical Works-Part-VII (DG Set)-2013.
f) CPWD General Specification for Electrical Works-Part-VIII (Gas Based Fire Extinguishing System)-2013.
g) CPWD General Specification for Electrical Works – (Heating, Ventilation & Air-Conditioninng (HVAC))-2024.
h) Relevant BIS specifications amended up to date.
i) Indian Electricity Act 2013 and Indian Electricity Rules 1956 amended up to date.
j) Local Fire Regulations applicable at the place of installation.
k) Relevant and applicable foreign standards and specifications amended up to date.
l) Any other relevant act or rules and local byelaws.
m) Commercial and additional conditions and specifications for E & M works for this tender.

1.5 The work shall be carried out by CPWD enlisted contractor of appropriate Class as per Composite category with valid Electrical license and supervisor license only and other criteria as per norms. In case the main contractor is not fulfilled the criteria, he should engage an suitable agency as associated contractor, for execution of this work. Name of electrical agency shall be given in consent letter Proforma along with enlistment details of the agency

1.5.1 Executive Engineer (Elect.) shall be the Engineer-in-Charge as far as electrical works are concerned. It will be obligatory on part of the main contractor to sign the tender documents for all the component. The main contractor has to enter in agreement (MOU) with the Contractor associated by him for execution of minor

component. Copy of such agreement shall be submitted to EE(E), SCED, Siliguri of minor component as well as EE (C) in charge of major component.

1.5.2 Running payment for Electrical/Mechanical components shall be made by the EE (E) directly to the main Contractor. The main contractor shall make the payment to associated Contractor within 15 days of receipt of each running account payment.

1.5.3 The main contractor shall be responsible for coordinating the activities of all works and will ensure progress of works as per laid down program.

1.5.4 Normally, there shall be no change in associated contractor for minor component work during the execution of the work. If at all, a change is necessitated, the same should be acceptable to the department and such acceptable contractor shall fulfill the conditions laid down for the selection of the associated contractor in the tender document.

1.6 If the specifications for any item or its component are not available in the CPWD specifications cited above, relevant BIS specification as amended up to date shall be followed, whether or not the specific reference of a particular BIS specification has been made in this specification / tender document.

1.7 Wherever any reference to any Indian Standard specification occurs in the document relating to this contract the same shall be inclusive of all amendments issued thereto or revisions thereof, if any, up to the date of opening of tenders.

1.8 All materials should conform to relevant BIS specifications wherever the same exists in absence of stipulation in this tender document.

1.9 Where manufacturers furnishes specific instructions / recommendations relating to the materials used in this job and/or their installation, covering points not specifically mentioned in these documents, these instructions shall be followed in all cases and shall be deemed to be included in the schedule of work whether they have been specifically mentioned or not.

1.10 Manufacturer's catalogue / literature on installation, testing, maintenance and troubleshooting of major equipment's shall be submitted to the department while handing over the installation.

2.0 MATERIALS TO BE USED IN THE WORK:

2.1 All materials used in the work shall be new and of good quality, conforming to the relevant specifications as per good engineering practice.

2.2 All the materials proposed to be used in the work should be got approved from Engineer in Charge before use in work.

2.3 The materials to be supplied / provided by the contractor in execution of the work should be ISI marked, wherever applicable and of make as specified in the agreement. Where the make of any particular material is not specified in the contract document, the material shall be supplied as per makes desired by the engineer-in-charge.

2.4 It will be the responsibility of the contractor / bidder to ensure use of genuine materials in the work. The department reserves the right to get (any / all materials / components) inspected by the manufacturer or their authorized representatives at any stage of the execution of work. If any of the materials, equipment supplied and used in work is found spurious at any stage, then the department reserves the right to ask the contractor to replace it by genuine one and make suitable recovery and / or withheld suitable amount till it is done, even if any payment against that material is already made.

2.5 The department may ask for any valid document like manufacturer's test certificate, document for purchase of the material, document for import / shipment of imported materials etc. as deemed fit by the engineer-in-charge to ascertain genuinity of material supplied by / used in the work by the contractor. The contractor shall remain bound to submit all such documents to the department failing which payment may not be made or if already paid may be recovered / withheld from subsequent running account payment.

2.6 Copies of all purchase documents for all equipment's, accessories, fittings, fixtures etc. which carry guarantee / warrantee shall be handed over to the department in suitable form so that proper guarantee of materials are available to the department.

2.7 All the equipment's and their components and all the materials to be used in the work shall be suitable for the environmental conditions at the location of the work.

2.8 The materials to be supplied in this work shall be scheduled in such a way that miles stones are achieved and no shortfall is there. At the same time materials should be brought at sight in phases in such a manner so that they are not brought much in advance at site and dumped in work site for long period before installation and guarantee / warrantee of the materials are available for full period as per tender conditions. If the materials / equipment's are supplied at site much before actual use in work, the department shall not remain bound to make payment for such items of work involving the said materials / equipment's. The decision of the engineer in charge will be final and binding on all.

2.9 The Main Agency and the associate Agency shall be responsible for preparation and submission of all E&M drawing and getting approval from the competent authority. Necessary inventory shall be issued by the Department.

2.10 It is the responsibility of the Agency to get pre and post fire NOC from local fire authority, NOC from local body including clearance from pollution control board, C.E.A and lift where ever applicable from the competent authority. Nothing extra shall be paid on this account to the main Agency. The agency has to pay initially all statutory cost. The same will be reimbursed to the agency on re-submission of original bill & payment voucher. Before making any such payment by the Agency, necessary permission must be taken from CPWD. All relevant documents on this matter shall be supplied by CPWD. Only bill amount shall be reimbursed to the agency no profit shall be paid on this account.

2.11 Dismantle materials, if any, should be returned to the department unless otherwise anything in contrary has been specifically stated in the tender document / BOQ.

3.0 RATES:

3.1 Unless otherwise provided in the schedule of quantities of the work 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 extra shall be payable to him on this account.

3.2 The rates for all items of work shall, unless clearly specified otherwise, include cost of all labours, materials and other inputs involved in the execution of the item irrespective of whether they have been specifically mentioned in the tender document or not.

3.3 This being an indivisible works contract, GST etc. are not payable separately. The rates tendered shall be firm and inclusive of all taxes, duties, cess and levies as applicable, and all charges for packing, forwarding, insurance, freight and delivery, installation, testing and commissioning at site, watch and ward etc. including

temporary constructional storage, risks, overhead charges, general liabilities / obligations and clearance from local bodies and State Fire Services, as applicable. Nothing extra shall be paid. However, fees payable to the local bodies / authorities for such clearance etc. shall be borne by the department.

3.4 GST or any other tax applicable in respect of inputs procured by the contractor for this contract shall be payable by the contractor and department will not entertain any claim whatsoever in respect of the same.

3.5 All the tender rates shall be inclusive of any tax, levy or cess applicable on last stipulated date of receipt of tender including extension if any. No adjustments i.e. increase or decrease shall be made for any variation in the rate of GST, Building and other construction workers welfare cess or any tax, levy or cess applicable on inputs as per clause 38.

3.6 In case the same item (s) appear more than once in the schedule of work / BOQ under the same sub head or among the different subhead of works, the lowest rate quoted for that item (s) shall be considered for the particular item (s) wherever appeared in any part of BOQ / Schedule of works for the purpose of tender evaluation although web generated e-price bid may incorporate different quoted rate for same item (s) as per the quoting pattern of the tenderer. The tendered amount thus worked out shall be final & shall be binding on the contractor. (Applicable for item rate tender).

4.0 ACCIDENT:

4.1 The department (CPWD) shall not have any responsibility or liability in case of any accident injury to the personnel to the contractor at work site or to the general public at the work site due to mishandling equipments by the personnel of the contractor or any other similar reason. The responsibilities and liabilities for such accidents and incidents shall be borne in full by the contractor.

5.0 AFTER SALES SERVICE:

5.1 The contractor shall ensure adequate and prompt after sales service in the form of maintenance personnel and spares as and when required with a view to minimize the break down period. Particular attention shall be given to ensure that all spares are easily available during the normal life of the installation.

6.0 REMOVAL OF SURPLUS MATERIALS AND TOOLS:

6.1 After completion of work the agency shall remove his men, materials and debris etc. from site.

7.0 QUALITY OF WORK AND WORKMANSHIP:

7.1 The contractor shall be entirely responsible and answerable for all the works done by him regarding quality, adherence to the laid down specifications, terms and conditions, warranty/guarantee etc. and he shall be liable to bear any compensation that may be levied by the department under any of the clauses of the agreement.

7.2 Clause 1.15 of CPWD General Specifications for Electrical Works, Part – IV, Substation 2013 shall be applicable

7.3 Clause 1.22 of CPWD General Specifications for Electrical Works, Part –I, (Internal) 2023 shall be applicable

7.4 The materials having ISI mark shall have precedence over the one conforming to IS Specifications.

7.5 The contractor is advised to visit the site before quoting for his tender to apprise himself about the site environments and other conditions. Drawings and inventories can be seen in the office of the Engineer – in – charge.

8.0 SITE ORDER BOOK:

8.1 The contractor or his authorized representative shall sign the site order book and comply with the remarks entered their in by the representative of the department.

9.0 WATCH AND WARD:

9.1 The contractor will make his own storage of his own materials. The watch and ward of the materials and of the installations would be responsibility of contractor till the work is completed / handed over to the department. Nothing extra shall be paid to the contractor on this account.

9.2 Making payment to the contractor in any form against supply of materials / equipment's / components or execution thereof shall not absolve the contractor of his responsibility of watch and ward of the equipment's / materials etc. and their satisfactory functioning until the same is taken over by the department after successful installation, testing, commissioning and running in period.

9.3 No separate storage space will be provided to the contractor for storage of his materials and equipment's to be brought at site and used in execution. The available open site space may however be used by the contractor for storage purposes in which case he may build up temporary store at available site space at his own cost.

10.0 VARIATION IN QUANTITY:

10.1 Quantities shown against each item of work or supply are tentative which may vary on either side (plus or minus). This variation shall, in general, be governed by clause no. 12 of the clauses of contract of CPWD form 7. The contractor should ensure from the Engineer-in-charge and from the site condition the actual quantity required / to be used / to be supplied before bringing the materials at site. In case the actual quantity of material required at the site is less than the stipulated quantity, the contractor cannot claim to supply entire quantity stipulated in the schedule of quantities of work (Schedule – A) as well as cannot demand for payment thereof. The contractor shall therefore, be very careful about the quantity of materials to be supplied / brought at site. The decision of the Engineer-in-charge in this regard shall be final and binding on the part of the contractor. Even if initial payment for supply of materials is made in any form for bringing material at site and if it is found at later stage that the actual requirement is less as per site requirement or as per decision of the Engineer-in-charge, the contractor shall have to take back the additional quantity brought / supplied at site and necessary adjustment shall be made from his next bill on this account. No claim in this regard shall be entertained.

11.0 NATURAL CALAMITY:

11.1 No payment will be made to the contractor for any damage caused by rain, snow fall, floods, dampness, fire, sun or any other natural cause whatsoever during the execution of work. The damage to the work due to above reason, if any, shall have to

be made good by the contractor at his own cost and no claim on this account shall be entertained.

12.0 INSPECTION AND TESTING:

12.1 The Engineer-in-charge or his authorized representative may inspect any material at manufacturers' works and may witness routine tests as per relevant Indian Standard Specifications or other relevant specifications at manufacturers' works.

12.2 The contractor shall give in writing advance notice to the Engineer-in-charge and arrange for such inspection / presence for testing at manufacturers work. The TA/DA etc. of the departmental personnel who will be deputed to witness the tests etc. shall be borne by the Department.

12.3 The Engineer-in-charge or his authorized representatives shall have, at all the reasonable times, access to the contractor's premises or works or other works where manufacturing / fabrication shall be done and shall have the power, at all reasonable times, to inspect and examine the materials and workmanship during its manufacture or fabrication.

12.4 Inspection of imported materials at foreign works shall however not be carried out by the department. These materials shall be inspected and tested at site. Manufacturers' original test certificates and document of import / shipment should be provided to the department along with the materials without which no payment should be made to the contractor.

12.5 The contractor shall arrange for all the materials and labour required in connection with inspection of equipment or for any testing to be carried out at his works / manufacturers' works or at site of installation. Notice of such inspection / presence for testing shall be given by the contractor to the Engineer-in-charge at least fifteen days in advance.

12.6 Notwithstanding approval for such tests / inspection of equipment's / components by the Engineer-in-charge or his authorized representative, the contractor shall be required to perform site tests as desired by the Engineer-in-charge and prove the correctness of ratings and performance of equipment's / components and materials supplied and / or installed by him as per contract specifications and conditions at his own cost.

12.7 The Engineer-in-charge reserves the right to reject any equipment / machinery / material should it, on tests after installation, be found not to comply with contract specifications or its performance is not satisfactory.

12.8 Final inspection and testing will be done by the engineer-in-charge or his representative as per details to be indicated by the engineer-in-charge.

12.9 It shall be the responsibility of the contractor to get the installation inspected and passed by the local authorities concerned, as may be required by the local bye laws. The contractor will extend all help including test facilities to the representatives of the local bodies. In case the contractor fails to make desired facilities available during inspection, the department reserves the right to provide the same at the risk and cost of the contractor. The observation of the local authorities will be promptly attended by the contractor. The installation will be accepted by the department only after receiving clearance from the local bodies / fire authorities. The inspection charges shall be initially paid by the agency and the same will be reimbursed on submission of original bill & payment voucher.

13.0 COMPLETION DRAWING AND MANUAL :

13.1 In addition to the mode and form of submission of completion drawings and manuals as stipulated in the relevant CPWD Specifications for various sub-heads of E&M works, the contractor shall also submit soft copy of the completion drawings in Pen Drive.

14.0 POWER SUPPLY AND WATER SUPPLY :

14.1 No Power & Water Supply shall be provided by the department for the purpose of execution of the E&M work, except for testing and commissioning of installations. The contractor shall make his own arrangement in this regards. The power supply for testing and commissioning will be given at one point inside the premises and the contractor shall have to make arrangement for required cabling work and switch gears for extension of the power to the required location for testing. This will be applicable to all sub-heads of E&M works.

15.0 WORKS TO BE DONE BY THE CONTRACTOR

15.1 Unless otherwise mentioned in the tender documents, the following works shall be done by the contractor and therefore, their cost shall be deemed to be included in their tendered cost – whether specifically indicated in the schedule of quantity / work or not:

a. Foundations for equipments / structures / fuel tank / pumps including vibration isolation spring / pads.

b. All minor building works necessary for installation of equipments such as making of openings in walls / floors, either of RCC or brick masonry, foundation trench for fuel line and cable, making of opening in walls or in floors and restoring them to their original condition / finish and necessary grouting etc. as required.

c. Dismantling of brick wall, if any, for inserting / positioning / placement of equipments, Control panel / Diesel Tanks or for taking ducting / cable tray / pipes and rebuilding / making good the same to its original position / finish.

d. Making good all damages caused to the structure during installation and restoring the same to their original finish.

e. Supply and installation of all necessary angle / channel / flat iron supports and brackets etc. for installation of the substation equipments,–D.G. Sets / Diesel Tanks / Exhaust Piping / Water and fuel piping / Cabling / electric Panels / bus-trunking / pumps / air-conditioning ducts / air-conditioning equipments and their sub-assemblies / accessories on floor / wall / Shaft / terrace and at other places, as may be necessary including their installations in position.

f. Responsibility to ensure safety of all materials against pilferage and damage till the installation is handed over to the department.

g. All scaffolding as may be necessary for installation of Exhaust piping / Cabling / Electric Panels / exhaust pipe / wet riser and sprinkler pipes / ducts and all other equipments and their sub-assemblies / accessories on floor / wall / Shaft / terrace and at other places during erection work and subsequent removal.

h. Painting of all exposed metal surfaces of equipments and components with appropriate / approved colour as required and as desired by the Engineer – in - charge.

i. All electrical works including cables / wires, earthing etc as specified in Schedule of work.

j. Small wiring, inter-connection etc. inclusive of all materials and accessories necessary to comply with the regulations as well as proper and trouble free operation of the equipment.

k. Closing of the cable entry points in sub-station/electrical panel rooms etc. where ever applicable against seepage of water rodents etc.

l. Approval / clearance of the complete installation shall be obtained by the contractor from CPCB / State Pollution Control Board / Local Bodies / Central Electricity Authority (CEA) / other licensing authorities wherever required. However, application shall be made by the Department and any statutory fee, as applicable, shall be paid by the department directly to the government authorities concerned.

16.0 Date of taking over of the installation and date of acceptance:

16.1 The date of taking over of the installations under any sub-head of E&M works shall be the date of taking over the complete building (s) after due completion of the entire composite work and after complete test and trial run of all the major equipments under all sub-heads of E&M works to the entire satisfaction of the engineer-in-charge.

16.2 Subject to the guarantee clause, date of taking over the installation after stipulated period of trouble-free operation of all the E&M works shall be the date of acceptance.

17.0 Order of Preference:

Should there be any difference or discrepancy between the description of items as given in the Schedule of Quantities, technical specifications for individual items of work (including additional and commercial conditions) and IS Codes etc., the following order of preference shall be followed:

1. Schedule of quantities
2. Additional and Commercial Conditions
3. Technical specifications specified in the tender
4. General Conditions of Contract for CPWD Works
5. Drawings
6. CPWD General Specifications
7. Relevant IS or any other international code in case IS code is not available.

18.0 The responsibility of execution of Specialized E&M works under scope of NIT shall lie with Main composite Contractor only. He is required to furnish the documents / certificates in support of his experience to execute the mentioned specialized E&M works given in Table-1below after award of work. If the main agency does not have required experience, they must associate Specialized Agency / Agencies to execute the mentioned E&M components of the work having requisite experience as per table-1, However, the composite category contractor shall also be eligible to carry out himself any or all of these works without associating any specialized agency provided (a) He fulfills the prescribed eligibility criteria respectively for these work(s), or, (b) He directly procures the equipment of approved make from manufacturer and get it installed from authorized agency / service provider of the manufacturer or specialized agency as per criteria mentioned in NIT. In this connection, it is mentioned that the composite contractor and the associated specialized agencies shall give required affidavit to confirm their association to the Engineer-in-charge. Tender accepting authority may approve change of sub-agency in case it is required during the currency of the contract.

Street/ Compound Lighting:-
Proper alignment of poles to be ensured. Cables to be laid as per CPWD Specifications.
Makes and models of poles/ luminary shall confirm to technical specifications etc. as per agreement.
Photometry test of each type of luminary shall be conducted at manufacturer's works. Cables, Feeder Pillar & Earthing shall be done as per sub-station section.
Display of Schematic in control room as well as feeder pillars includes operations andlogics etc.
Poles shall be tested at manufacturer's works for the following tests:-Tensile test,
Deflection test, Permanent set test,

Drop test.
Visual inspection for dimensional check & finish.

TESTING PLANS
The testing plan for quality control for major E&M services is attached as Annexure-A. These plans are to be read along with following guiding notes:-
The material to be supplied against the contract shall be not older more than 6 monthsfrom date of receipt at site.
To procure the genuine material from suppliers/ authorized dealer etc shall be the responsibility of contractor who shall preserve copies of invoice/ excise gate pass/ proof of dispatch and the same shall be made available for specially to engineer-in-charge for examination/ scrutiny/ verification as deemed fit by him.
As per guideline only routine test as prescribed in IS/ CPWD specifications shall be carried at manufacture works/ third party labs. Type test/ special test/ optional test shall be carried out only if stipulated in Bid Document/Contract.
All items to be used and workmanship shall be thoroughly checked physically and for their performance as per agreement.
As per guideline only routine test as prescribed in IS/ CPWD specifications shall be carried at manufacture works/ third party labs. Type test/ special test/ optional test shall be carried out, wherever stipulated in Bid Document/Contract.
All items to be used and workmanship shall be thoroughly checked physically and for their performance as per agreement.
It is the responsibility of the Agency to collect sample duly signed by the Engineer-in-charge or his representative and get the testing done from any NITs/ IITs/ Govt Institutions/ Govt Testing center as per direction of E-in-C. The Agency shall bear the testing charges i/c sampling and transportation and nothing extra shall be paid on this account.

Annexure-A

A- Internal Electrical Installation								
Stage /Sl no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lotsize whichever is less	Whether Proof of Dispatch required	Whether Manufacturer'stest certificates required	Sample Size	Location of Test	
							At manufacturer works	At third Party Lab.
1	LT Panels with ACB	CPWD specs part IV/QA Plan: Construction, Ratings of SWG, air gaps between phases, phase to body, IP rating, Short Circuit ratings etc.	Any	Y	Y	100%	Y	N
2	LT Panels with incomer of more than 200A	CPWD specs part IV/QA Plan: Construction, Ratings of SWG, air gaps between phases, phase to body, IP rating, Short Circuit ratings etc.	Up to 2	Y	Y	0	N	N
			>2 and < 10	Y	Y	1	Y	N
			>10	Y	Y	2	Y	N
3	Rising Main and Bus Trunking	CPWD specs part IV/QA Plan	Length upto 500 mtr	Y	Y	10% length and fittings	N	N
			Length > 500 mtr	Y	Y	10% length and fittings	Y	N
4	Rigid MS Conduit	IS 9537 Pt I &2	up to 2500 mtr	Y	N	N	N	N
			>2500 mtr	Y	Y	1 piece of 1 mtr for every 1000 mtr	N	Y
5	Rigid PVC Conduit	IS 3419 :1989	up to 2500 mtr	Y	N	N	N	N

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

			>2500 mtr	Y	Y	1 piece of 1 mtr for every 1000 mtr	N	Y
6	Cable Tray	CPWD Spec. Part- I/II: Check for perforation area, paint/ Galvanising thickness and Material Composition	Length upto 500 mtr	Y	Y	N	N	N
			Length > 500 mtr	Y	Y	One piece for every 500 Mtr	N	Y
7	DWC/ Corrugated HDPE Pipe	IS 14930 , Check for thickness, material, Mechanical Strength and smoothness	Length upto 500 mtr	Y	N	N	N	N
			Length > 500 mtr	Y	Y	One piece for every 500 Mtr	N	Y
8	Wire	IS 694:1990	up to 10000 mtr	Y	N	N	N	N
			>10000 mtr	Y	Y	1 piece for every 10000 mtr or less	N	Y

Y Stands Yes

N Stands No/Not applicable

B- Street /Compound Lighting								
Stage /Sl no	Material / Process	Standard Applicable/ TestRequired to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatchrequired	Whether Manufacturer's test certificates required	Sample Size	Location of Test	
							At manufacture works	At third Party Lab.
1	LT Panels with ACB	CPWD specs part IV/QA Plan: Construction, Ratings of SWG, air gaps between phases , phase to body ,IP rating, Short Circuit ratings etc.	Any	Y	Y	100%	Y	N
2	LT Panels with incomer of more than 200 A	CPWD specs part IV/QA Plan: Construction, Ratings of SWG, air gaps between phases, phase to body, IP rating, Short Circuit ratings etc.	Up to 2	Y	Y	0	N	N
			>2 and < 10	Y	Y	1	Y	N
			>10	Y	Y	2	Y	N
3	Poles	Whether in conformity withtender specs	up to 100	Y	Y	N	N	N
			>100	Y	Y	2%	Y	N
4	LT Cable	IS 1554 Part 1	up to 2500 mtr	Y	N	N	N	N
			>2500 mtr	Y	Y	1 piece for Every 2500 mtr	N	Y

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

5	DWC/ Corrugated HDPE Pipe	IS 14930, Check for thickness, material, Mechanical Strength and smoothness	Length upto 500 mtr	Y	N	N	N	N
			Length > 500 mtr	Y	Y	One piecefor every 500 Mtr	N	Y
6	Fittings	Whether in conformity withtender specs	>100	Y	Y	NA	N	N

C- Sub Station, DG Set, UPS

Stage /Sl no	Material / Process	Standard Applicable/Test Required to be Done	Total Qty (each type)reqd. in agreement or lotsize whichever is less	Whether Proof	Manufacturer'stest certificates	Sample Size	Location of Test	
							At manufacture works	At third Party Lab
1	HT Panel	CPWD specs part IV/QA Plan: CT ratio and accuracy Class should be invariably checked	Any	Y	Y	1	Y	N
2	HT Panel: metering and protection devices	Check CT ratio and accuracy Class, Relays and Meters	Any	Y	Y	1	Y	N
3	LT Panels with ACB	CPWD specs. part IV/QA Plan: Construction, Ratings of SWG, air gaps between phases , phase to body ,IP rating, Short Circuit ratings etc.	Any	Y	Y	1	Y	N
4	LT Panels with incomer of more than 200 A	CPWD specs. part IV/QA Plan: Construction, Ratings of SWG, air gaps between phases , phase to body ,IP rating, Short Circuit ratings etc.	Up to 2	Y	Y	0	N	N
			>2 and < 10	Y	Y	1	Y	N
			>10	Y	Y	2	Y	N

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

5	Capacity or Panel	CPWD specs part IV/QA Plan: Check for type of capacitors used, operation of relay, settings. Change the load and its type and check functionality	Any	Y	Y	1	Y	N
6	Rising Main and Bus Trunking	CPWD specs part IV/QA Plan.	Length upto 500 mtr	Y	Y	10% Length and fittings	N	N
			Length >500 mtr	Y	Y	10% length and fittings	Y	N
7	CableTray	CPWD Specs. Part I/II: Check for perforation area, paint/ Galvanising thickness and Material Composition	Length upto 500 mtr	Y	Y	N	N	N
			Length > 500 mtr	Y	Y	1 piece for every 500 Mtr	N	Y
8	DWC/ Corrugated HDPE Pipe	IS 14930 , Check for thickness, material, Mechanical Strength and smoothness	Length upto 500 mtr	Y	N	N	N	N
			Length > 500 mtr	Y	Y	One piece for every 500 Mtr	N	Y
9	Trans former	CPWD Specs. Part IV/QA Plan: Physical verification of accessories as per agreement and Routine tests as per IS: 2026/IS 11171:1985 (which ever applicable), with Particular attention to losses meeting ECBC norms / as per agreement, Type test certificate for exact same design for impulse withstand and short circuit with stand shall be made available by Manufacturer, Temperature rise test of one transformer of each design shall be done. Copies of the certificate for pressure test, test for bushings shall be supplied to the department.	Any	Y	Y	100%	Y	N

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

10	DG set	Load specs testing as per CPWD	Any	Y	Y	100%	Y	N
11	UPS	Load testing and operation logic as per CPWD specs, Check for input and output power quality as per agreement	Any	Y	Y	100%	Y	N
12	HT Cable	IS 1554 Part II	Upto 500 mtr	Y	Y	1	N	N
			>500 mtr	Y	Y	1 Piece for every 500 mtr	N	Y
13	LT Cable	IS 1554 Part I	Up to 2500 mtr	Y	N	N	N	N
			>2500 mtr	Y	Y	1 piece For every 2500 mtr	N	Y

Y Stands Yes

N Stands No/Not applicable.

D- Fire Fighting								
Stage /Sl no	Material / Process	Standard Applicable/ Test Required to be Done	reqd.in agreement or lot size whichever isless	Whether Proof of Dispatch required	Manufacturer's test certificates required	Sample Size	Location of Test	
							works	At third Party Lab.
i. Before dispatch of material at factory or before use at site								
1	Pumps	As per tender specs.	Any capacity	Y	Y	100%	N	N
2	MS Pipes	To be tested for thickness and weight as per applicable IS	Any	Y	Y	1 for every 100 mtr	N	N

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

3	Valves	Flow and controls as per data sheet	up to 20	Y	N	NA	N	N
			>20	Y	Y	1 for every 20	N	Y
4	LT Panels with ACB	CPWD specs part IV/QA Plan: Construction, Ratings of SWG, air gaps between phases, phase to body, IP rating, Short Circuit ratings etc.	Any	Y	Y	1	Y	N
5	LT Panels with incomer of more than 200A	CPWD specs Part IV/QA Plan: Construction, Ratings of SWG, air gaps between phases, phase to body, IP rating, Short Circuit ratings etc.	Up to 2	Y	Y	0	N	N
			>2 and < 10	Y	Y	1	Y	N
			>10	Y	Y	2	Y	N
6	Cable Tray	CPWD Specs. Part I/II: Check for perforation area, paint / Galvanising thickness and Material Composition	Length upto 500 mtr	Y	Y	N	N	
			Length > 500 mtr	Y	Y	One piece for every 500 Mtr	N	

ADDITIONAL CONDITIONS AND SPECIFICATIONS FOR THE WORK OF INTERNAL & EXTERNAL ELECTRICAL INSTALLATIONS:

1.1 The wires / cables used for point wiring, circuit wiring, sub-main wiring, power wiring and other wirings shall be done by FRLS grade PVC insulated copper conductor single core cable of 1100 V grade and of makes as specified in the list of accepted makes of materials.

1.2 All the wires should be terminated to the switch box / DB / MCB etc. by crimping with suitable size tinned copper lugs, unless the wire is single stranded. For termination to switches soldering is permissible. Nothing extra shall be paid on this account.

a. The conduit layout / drawings for panels / other documents pertaining to E&M services and information in the following format shall have to be submitted for evaluation & approval, in association with respective Associate Contractor (selected by successful bidder / Main Contractor) within 30 days of award of work.

S No	E&M Work	Information to be furnished by the successful bidder
1	Internal Electric Installation i/c other E & Services	Single line diagrams for distribution of power and lighting, panel drawings, conduit layout, cable routing, earth locations, detailed technical particulars of all items proposed to be used etc.

b. The above schemes of all the E&M works shall have to meet all the requirements of local bodies / CEA/ NBC norms as applicable& also meet the technical specifications of various relevant CPWD specifications for electrical & mechanical services.
All the above schemes shall be got approved as applicable before commencement of execution of work at site. During execution, if the local bodies etc. require a modification, the same shall be executed. Finally after execution preparation of documents required for approvals / NOCs / clearances from local bodies etc. shall be the responsibility of successful bidder for which nothing extra is payable. In case any modification / extra work is required, the same will be paid as per relevant clauses of the agreement. All statutory fees / charges required for obtaining clearances from CEA / Local Bodies shall be paid by the contractor and the same shall be reimbursed on submission of documentary proof.

1.3 Hidden / concealed items and earthing work shall be done in the presence of the Engineer-In-charge of the work or his authorized representative only. The contractor shall give due notice for such work in advance to the department.

1.4 The wireman / electrician engaged shall possess valid electrical workman permit in appropriate category as per rule.

1.5 The drawing showing layout of the main board, allied equipment, if any, shall be got approved by the contractor from the engineer-in-charge before fabrication and execution.

1.6 All hardware, fastening material viz nuts, bolts, washer and screws etc. to be used on work shall be of zinc / cadmium plated iron.

1.7 The contractor shall have to furnish the insulation test report, earth test report, along with all required detailed of electrical load on the prescribed proforma for the electric connection from the supply company.

1.8 The contractor shall submit the completion certificates and completion plan as per clause 1.26 of General specification for Electrical work (Part-I internal)-2023.

1.9 The chases in wall shall be done by chase cutting machines, for which the contractor shall arrange adequate numbers of chase cutting machines (chase cutters) for cutting chases in wall etc. for laying of conduit within the scope of work nothing extra shall be paid.

1.10 The contractor shall be entirely responsible and answerable for all the works done by him regarding quality, adherence to the laid down specifications, terms and conditions, warranty/guarantee etc. and he shall be liable to bear any compensation that may be levied by the department under any of the clauses of the agreement.

1.11 The contractor is advised to visit the site before quoting for his tender to apprise himself about the site environments and other conditions. Drawings and inventories can be seen in the office of the Engineer – in – charge.

1.12 The contractor will make his own storage of his own materials. The watch and ward of the materials and of the installations would be responsibility of contractor till the work

is completed / handed over to the department. Nothing extra shall be paid to the contractor on this account.

1.13 The contractor should use only the approved makes of materials in the work specified in the NIT.

1.14 The agency will provide lay out drawing prepared by his Engineer with consultation with Engineer-In-Charge or his representative for approval before execute of work.

1.15 All multi data matters specified in item shall be suitable to measure voltage, current, PF, Kwh, frequency etc.

1.16 The department reserves the right to send such materials to the manufacturers / authorized test laboratory to verify the genuineness and quality of the product.

1.17 The work shall be carried out in engineering like manner and bad workmanship shall be
rejected summarily. For redoing the job, no claim of the contractor shall be entertained on this account.

1.18 **Payment terms:** On account payments for part work (after stipulated and statutory deductions) as assessed by the Engineer – in-charge for the applicable items in the Contract shall be payable at part rates not exceeding the percentage indicated against the stages of work mentioned below:

a) Items connected with point wiring, circuit wiring, sub-main wiring, power point wiring and light plug wiring

SL	Stage of work	Percentage of Rate
a	On laying of conduits with accessories, switch boxes, etc. on pro-rata basis	40%
b	On drawing of wires including terminations, switches, sockets etc. on pro-rata basis	40%
c.	On completion of item and after testing and commissioning	15%
d	At the time of payment of final bill	5%

b) Distribution Boards, MCBs , RCCB, LED fittings , & Other items

SL	Stage of work	Percentage of Rate
a	On initial inspection of material and delivery at site in good condition on pro rata basis	70%
b	On completion of installation on pro rata basis	15%
c	On completion testing and Commissioning.	10%
d	At the time of payment of final bill	5%

1.19 **LUMINAIRES**:

1.19.1 A sample of each item of schedule of supply shall be handed over by the bidder in the office of the Engineer – in – charge (Electrical) before procurement of the fittings. These samples shall be returned back afterwards.

1.19.2 The makes of luminaries shall be strictly as per the tender conditions. The contractor must submit technical literature & photometric data, LM 79 and LM 80 type test certificates along with write up of the luminaries to be supplied by him.

1.19.3 Copy of type test certificate for all types of luminaries as per BIS, including type test certificate from a Central / State government or public sector laboratory or a

laboratory recognized / accredited by the Central / State Government for such tests for the light fittings shall be submitted before acceptance of the fittings.

1.19.4 Contractors should obtain an undertaking from the manufacturer that they have a system of quality control to ensure consistent good quality of the finished product and as such has a scheme of inspection of the light fittings. They should agree for inspection of the light fittings and testing as per relevant IS and other standards in their labs.

1.20 **GUARANTEE:** All the electrical light fittings with all its components (Except LED luminaries) shall be guaranteed for a minimum period of one year or for a period for which the manufacturer gives their normal guarantee whichever is longer from the date of completion / acceptance of the installation. All the LED type of luminaries including all accessories and drivers shall be guaranteed for a minimum period of 5 years or for the normal period of guarantee provided by the manufacturer whichever is longer from the date of completion / acceptance of the installation. The contractor shall remain responsible for replacement / repair of the fittings free of cost if they are found not operating / glowing during maintenance / warrantee period.

1.20.1 Additional Security deposit shall be withheld @ 2.5% of LED luminaries work and the same will be released after completion of 5 years from the date of hand over to department/ completion of work whichever is later.

1.21 It will be the obligatory on the part of the contractor to get all the light fittings and fixtures and their components / accessories inspected by authorized engineer / personnel of the manufacturer of the fittings at site after the materials are received at site and obtain certificate that the materials reached at site are genuine and manufactured by them.

1.22 All MCCBs with Ics = 100% Icu shall only be provided except mentioned.

1.23 All the MCCBs / RCCBs/ MCBs/ MCB DBs shall be of similar make. MCBs shall be of 10 kA rating. For incomer MCCBs in panel's earth leakage protection shall be provided. The kA rating for MCCB shall be as per the item.

1.24 The contractor will have to arrange for insulation and other tests like cable test etc. as per rules in the presence of the representative of Engineer-in-Charge as and when required by him and submit the test report in triplicate before the work can considered as complete.

1.25 The contractor shall be responsible for the safe custody of the electrical installation in the building, including fitting and fixtures till the installations handed over to the department. He should make his own arrangement for proper watch and ward at his risk and cost. No claim will be entertained on this account.

1.26 The work is to be carried out in workman like manner and generally in accordance with the plans. However, the contractor will be bound to carry out the work with minor deviation over the plan supplied if desired by the Engineer-in-Charge of the work.

1.27 Stage payment to the contractor for various minor components of work shall be regulated as per CPWD Specifications. For works for which the % payment is not specially mentioned in the specification, the rate of stage payment shall be decided by Engineer-in-Charge.

1.28 Any Damage done to the building during the execution of electrical work shall be made good immediately at his own cost to the entire satisfaction of the Engineer-in-Charge.

1.29 All PVC insulated copper conductor cables used for the work shall be FRLS type with ISI mark and of make as per approved list.

1.30 Wherever makes of LT panels/Feeder pillars are not specifically mentioned in schedule/particular sub work specification, the same shall be fabricated by panel builders with in-house facilities for seven or more tank treatment process and powder coating. They also shall have approval from CPRI for panels with rating not less than the bus bar rating of the item.

1.31 Drawings of all panels and fabricated equipments shall be submitted to the Engineer-In Charge got approved before fabrication.

1.32 The connections, inter-connections, earthing and inter-earthing shall be done by the contractor wherever required to be done for energization of the installation and nothing extra shall be paid on this account.

1.33 General arrangement of Feeder Pillar shall be got approved before fabrication work starts. Drawing with details shall be submitted to the Engineer-in-Charge and got approved before fabrication.

1.34 Cable route and pole locations shall be marked in drawing / site and got approved by the Engineer-in-charge or his representative before commencement of work.

ADDITIONAL SPECIFICATION FOR MV PANEL

1. These shall in general be as per Section – 4 of CPWD General Specifications for Electrical Works, Part IV, Sub-stations – 2013.
2. There shall be separate gland plate for each cable entry.
3. The cubicle panels with more than 1000 Amps bus shall be made of tested structural modular sections.
4. All the ACBs and MCCBs in one panel shall be of one make only from amongst the list of preferred makes of materials.
5. All the ACBs shall have microprocessor release with inbuilt overload, short circuit and earth fault protection. In case of ACBs, Icu = Ics = Icw for 1 second. Icw shall be as specified in the schedule of work. Apart from inbuilt overload, short circuit and earth fault protection, the ACBs shall have instantaneous over current protection and neutral overloading protection.
6. All the MCCBs having microprocessor release shall have inbuilt over load, short circuit and earth fault protection. For the MCCBs, Icu shall be equal to 100 % Ics.
7. All the MCCBs having thermal magnetic release shall have inbuilt short circuit and over load protection. There shall also be external earth fault protection if the schedule of work so stipulates.
8. All the three pole MCCBs shall have neutral link as required.
9. Individual door earthing of all the compartments shall be done by suitable size FRLS / FRLSH / HFFR grade PVC insulated single core copper conductor cable of size not less than 4 Sq. mm.
10. All the panels are to be manufactured / fabricated as per approved drawings, inspections and observations. Noncompliance shall lead to summarily rejection of such item and action shall be taken under relevant terms and condition of the agreement.
11. Successful bidder will be required to provide such facilities as will be necessary for inspection of the panels before dispatch at his or his associated works. There may be

stage inspection also. Bidder shall furnish all necessary information for the purpose and will also give sufficient notice regarding the dates proposed for routine and all such tests to the department to facilitate their presence.

12. Inspection of the items of supply shall be done by the Engineer in charge or his authorized representative before they are dispatched to site of work. Copies of inspection certificates issued by CPWD officers shall be attached with dispatch documents to consignee. All arrangements for inspection of the materials at factory shall be made by the bidder and nothing extra shall be paid for the same. However, the cost of to and fro fare of the inspection team of the department shall be borne by the department.
13. Contractor shall arrange, before dispatch of the LT panels, an inspection and certification from the authorized engineer of the manufacturer of the switchgears i.e. ACBs, MCCBs, SDFUs about the genuineness and the same shall be submitted to the engineer-in-charge along with inspection / test report prepared by the inspecting officer authorized by the engineer-in-charge. This will be applicable for all other electrical panels also.
14. The MV panels shall be properly packed before dispatch so as to avoid any damage during transport. If the panels are found to be damaged after they reach at site, the same will be summarily rejected by the department.
15. All the MCCBs shall be provided with front operating kit (lockable rotary handle) irrespective of whether they have been specifically mentioned in the schedule of work or not.
16. All small wiring for controls and indication etc. in the panels shall be of 2.5 sq. mm size FRLS/ FRLSH / HFFR grade PVC insulated single core copper conductor cables conforming to IS 634. Identification ferrules shall be at both ends of the wires. All control wirings meant for external connection are to be brought out on a terminal board.
17. **Payment Terms:** The following percentage of contract rates for the various items included in this sub-head of work shall be payable against the stage of work shown herein.

Sl No	***Stage of work***	***Payment***
1	After initial inspection (wherever specified) and delivery at site in good condition on pro-rata basis	70%
2	After Installation & Testing	25%
3	On commissioning completion of successful running in period and taking over of the installation by the department.	5%

COMMERCIAL AND TECHNICAL SPECIFICATIONS FOR LAN, CCTV, IP BASED EPABX SYSTEM

1 The work shall be executed as per CPWD General Specification for Electrical Works 2023 (Internal) & 2023 part-II. (External) amended up-to-date and in accordance to the Indian Electricity Rules 1956 and Indian Electricity Act 2003 as amended up-to-date and as per the instructions and satisfaction of the Engineer-in –charge.

2 In case any item/items or part of these is not covered under these specifications the same shall be carried out as per direction of Engineer-in-charge.

3 Where-ever makes of accessories are not specified in NIT, makes as per manufacturer's standards are acceptable with approval of Engineer in charge.

4 The scope of work includes complete Nodes for Computer LAN and Wi-Fi System, Networking Switches, Softwares, Cat 6A &Fibre Optic Cables, Patch Panel, Patch Cords, Racks etc.

5 Guarantee certificate for all the LAN Equipments shall be submitted on the letterhead of OEM Company for a minimum period of 3 years. 3 Years from OEM with Toll free number for support in India. Dealer warranty shall not be acceptable.

6 All the Indoor and Outdoor Access Points should be provided in such a way that the range will cover every area of Hostel premises.

7 The hardware provided should be of latest upto date specification and compatible with the existing server installation.

8 The make(s) of the material to be used shall be as per list of acceptable make given below. For items not covered in the list, the work shall be carried out as per instructions of the Engineer-in-charge before using the material at site. Samples of material shall be got approved from Engineer-in-charge before using the material at site.

9 The contractor is advised to visit the site before quoting the rates, anything extra required / hindrances, to commission the CCTV system will be responsibility of the contractor and nothing extra will be paid.

10 All the materials, whatsoever, to be supplied and provided by the contractor should be of standard and approved quality. These should be got approved from the Engineer-in-Charge of his authorized representative before installation. No payment will be made for any unapproved or substandard/ rejected materials used on the work. Rejected materials should be removed from the site of work within 48 hours failing which the same will be liable for removal by the department at the risk and cost of contractor without any liability.

11 All the equipment connected with the Surveillance/ CCTV System will be the absolute responsibility of contactor to rectify the damage during execution of work.

12 The contractor shall keep sufficient spares at the site after the completion of work till Warrantee period from the date of completion.

13 Operational Training shall be provided to at least two personnel nominated by the engineer-in-charge including trouble shooting training for a minimum period of 7 days.

14 All CCTV shall be STQC certified and UL listed (if available) as per latest Order from the Government.

15 Lowest tenderer will submit, along with the performance guarantee after the acceptance of tender, an undertaking from the OEM regarding :

a) Authorization certificate.

b) The OEM is unconditionally support the lowest tenderer technically throughout the execution of contract as well as for Maintenance/ Comprehensive Maintenance

Contract for the useful life of the system, and

c) OEM provides all the spares required for healthy functioning of the equipment for at least seven years from the date of supply of equipment.

Payment Terms

Sl. No.	Stage of Work	Equipments and related items
I)	After initial inspection (wherever specified) & delivery at site in good condition on pro- rata basis	**70%**
II)	On completion of installation on pro-rata	**20%**
III)	On commissioning	**5%**
IV	On testing and handing over	**5%**

SPECIAL CONDITION FOR ONLINE UPS

1. The work shall be carried out strictly in accordance with the CPWD General Specification for Electrical works, Part-I Internal 2023 and Part II 2023 (External) as amended up to date . All installations shall also comply with the requirements of Indian Electricity Rules 1956, as amended up to date. In case of items not covered by the above specifications the work shall be carried out as per the instructions of the Engineer -in- Charge.
2. All materials used shall conform to relevant Indian Standard Specification and where ever existing materials with ISI certification mark shall only be used.
3. The contractor shall have to obtain prior approval from Engineer -in -charge before placing the order for any specific materials. The Engineer -in -Charge may approve any of the makes /Brands out of the list of accepted makes (enclosed). All the materials to be used in the work shall be got approved by the Engineer -in- charge prior to their actual in the work.
4. Bad workmanship shall be rejected in to.
5. All repairs and patch works shall be neatly carried out to match with the original finish by the contractor to the entire satisfaction of the Engineer -in-Charge.
6. All the debris due to the electrical works shall be cleared every now and then and site shall be kept clean by the contractor at all times.
7. The contractor is fully responsible to make his own arrangements for the watch and ward of materials at site as well as the installations provided by him till such time the installation / work is completed and handed over to the department in satisfactory working condition for which no extra claim will be entertained on account of damage, theft, pilferage etc., for the materials and installations.
8. The contractor shall make his own arrangement for all General and Special T & P required for the wok. No T & P items shall be supplied by the department.
9. The material to be used in the work shall be procured only from authorised source / dealers/ distributors and documentary evidence to this effect shall be submitted as and when desired to the Engineer -in-Charge or his representative failing which the Engineer - in -charge reserves the right to reject the materials in toto.
10. Price quoted shall be inclusive of all taxes including GST.
11. The quantities given in schedule of work for all the items are tentative. The work shall be carried out as per actual requirement and as approved by the Engineer -in - Charge.
12. GST, Labour Cess, Income Tax and other statutory deductions as applicable shall be deducted at source from the contractor's bills.
13. The contactor shall visit the site before quoting the e-tender.
14. All necessary connectors & accessories etc. required for testing &commissioning shall

be provided by the agency within the quoted rates &.Nothing will be paid extra.

15. All statutory / Mandatory recoveries in force and as notified by competent authority from time to time shall be recovered from the bills of the agency.
16. The material to be used in the work shall be procured only from authorized sources / dealers / distributors and documentary evidence to this effect shall be submitted as and when desired to the Engineer-in-Charge failing which the Engineer-in-Charge reserves the right to reject the materials in to to. No damage shall be caused to the existing structure / installation / equipment during the course of execution of the work. Any damage caused shall be made good at no extra cost. All the openings in the walls / ceiling including chases etc. in the walls shall be part of the scope of the work and nothing extra shall be paid on this account. All the openings and chases etc. made shall be finished properly
17. The price quoted shall be firm and inclusive of all taxes i/c GST, duties, levies, labour welfare Cess. GST and Labour welfare Cess will be deducted at source from the contractor's bills.
18. The contractor should make minimum fair wages to the staff as per prevailing labour laws, The wages shall be made to the bank account of the labour and proof shall be submitted to JE(E)/AE(E).

19. TERMS OF PAYMENT:

Sl. No.	Stage of Work	Equipments
I)	After initial inspection (wherever specified) & delivery at site in good condition on pro- rata basis	70%
II)	On completion of pro-rata installation	15%
III)	On Testing, Commissioning of all equipments.	10%
IV)	On handing over of equipments to client department.	5%

20. The agency shall have to coordinate with the civil agency from the time to time during execution of work.
21. The agency has to submit the test certificates for all the items being executed in the tender from the OEM duly mentioning the model number and serial number.
22. UPS shall be guaranteed for a period of minimum 1 year, and battery for minimum – 2 year warranty etc. shall be warrantied as per OEM and necessary Warranty Certificate shall be submitted.

Additional condition and Technical specification (10 KVA) ON LINE MODULAR Online UPS SYSTEM

GENERAL

The specification defines the electrical and mechanical characteristics and requirements for a Continuous duty, highly reliable, solid state type true on-line fully microprocessor controlled Double conversion PWM IGBT based Inverter and Rectifier MODULAR Uninterruptible Power Supply system with isolation Transformer for each ONLINE UPS. The Modular ONLINE UPS provide high quality AC power for sensitive electronic equipment loads. It also supply clean power automatically without any break in supply in the absence of raw power. Under no conditions will be the

protected system get direct supply from the raw mains unless there is fault in the protected system. The product must be confirmed to IEC62040, IEEE587, IS3700, 3715, 4411, 5001, 5469. The ONLINE UPS must be modular in design, hot swappable power modules take unique structure design, inherently N+ X redundant. Each smallest module must be 10 KVA or greater. The ONLINE UPS should be provided with isolation transformer, SNMP card and capacity enhancement at site. It is fully DSP controlled IGBT technology. Certification CE and IEC. Any redundant internal module can be concurrently isolated and serviced while the other internal modules continue to protected power to the load. The ONLINE UPS should have the ability to perform a full load test in double conversion mode without the connection of a load bank.

INPUT VOLTAGE

INPUT RATINGS	**UNITS**	**10 KVA**
INPUT VOLTAGE RATING	V	380/400/415 VOLTS THREE PHASE
Line voltage	V AC	415, 3 ph
Permissible input voltage variation	%	± 10
Permissible input frequency variation	%	± 3
Power walk in		progressive over 30 seconds
Frequency	Hz	50
Input power factor		0.99
Input current THDi	PERCENT	<3% (Full linear load)

OUTPUT VOLTAGE

OUTPUT RATING	**UNITS**	**10 KVA**
Voltage	V AC	380 – 400 – 415 (preset on commissioning) 3 ph N
Frequency	Hz	50 or 60 (presettable)
Output power factor		0.9

Overload at 0.8 pf , 3 ph-1ph	-	110% for 60 minutes 125% for 10 minutes
		150% for 1minutes 200% for 30 seconds
Current liming short circuit (inverter) 150% rated current (3 phase) for	- Sec	5 seconds
Maximum permissible non-linear load	%	100 % with 3:1 crest factor
Voltage stability-steady state -Transient state	%	± 1 ± 5
Reset time to within ± 1%	mSec	20
Synchronising window	Hz	± 1 Hz or ± 2 Hz (selectable via operator control)

Frequency stability- synchronized	-	The output will synchronize with the bypass supply within the set synchronizing range(upto ± 2 Hz)
Frequency stability- not synchronized	-	± 0.1 Hz, when the input supply frequency is outside the synchronizing range.
Phase voltage symmetry- balanced load	-	± 1 %
Phase voltage symmetry- 100% unbalanced load	-	± 2 %
Voltage phase displacement – balanced load	Angle°	120 ± 1
Voltage phase displacement – unbalanced load	Angle°	120 ± 1
Output voltage distortion linear load	-	1 % typical – 2% max
Maximum frequency slew rate	Hz/sec	0.1 to 1.0
Synchronized transfer to Bypass	mSec	0 approx.
Overload on bypass (with fuses)	-	10 x rated current for 100 mSec.
Battery back up	-	30 Minutes

EFFICIENCY

AC TO DC	>95%
DC TO AC	>95%

ISOLATION

Isolation of power	Both Input & Output have MCB's. Also Battery Connection have MCB/MCCB/ Switch
Isolation Transformer	At Out Put
Galvanic Isolation	Required
Manual Service Bypass	Automatic Static Bypass
Isolation of power	Both Input & Output have MCB's. Also Battery Connection have MCB/MCCB/ Switch

BATTERY CALCULATION CHART	To Be Provided by the successful bidder
Charger voltage precision	1%

BYPASS CIRCUIT

BYPASS CIRCUIT	UNITS	10 KVA
Voltage	VAC	415, 400, 380 selectable via operator control 3 Phases +N
Input Voltage variation	%	+/- 10%
Frequency	Hz	50Hz +/- 2Hz
Overload from standby supply	A	150% of rated current

—Protection, bypass line.‖	A	200% of rated current
Current rating of neutral cable	A	1.5 times of rated current

MECHANICAL &ENVIRONMENTAL CHARACTERISTIC

MECHANICAL CHARACHTERISTIC	**UNITS**	**10 KVA**
Class of Protection for enclosure		IP 20
Ventilation		By internal intake fans
Airflow	M^3/hour	240
Cable Entry		Bottom
ENVIRONMENTALCHARACTERISTICS	**UNITS**	**10 KVA**
Operating Temperature	°C	0 to 40°C
Mean temperature for 24hr a day.	°C	35°C max.
Maximum temperature for 8 hour a day	-	40°C,derate by 1.5% per °C between 40°C and 50°C
Relative humidity	-	$\leq$ 90% at 20°C
Altitude	-	$\leq$ 1000 m (derate 1% per 100m between 1000 to 2000)
Storage temperature	°C	-25 to 70

Maintenance Free Battery Requirements

Battery bank connected to each ONLINE UPS is designed to provide 30 minutes back-up at load. The ONLINE UPS module should be automatically disconnected when the battery reaches to the minimum discharge voltage level or when signaled by other control functions.

During normal operation batteries is continuously float charged & the charging current is electronically controlled for the limiting purpose.

PRODUCT

Fabrication Materials

All materials of the ONLINE UPS in new and of present state of the art, of current manufacturer, high grade and free from all defects and not have been in prior service except as required during factory testing.

Construction and Mounting

The ONLINE UPS unit comprised of input Isolator, Rectifier/Charger, Inverter, Static Transfer switch, Maintenance Bypass switch and static bypass input switch is housed in a free standing steel enclosure with key lockable doors. Front/rear access is required for expedient servicing, adjustments and installation. The enclosure will be built to comply with IP 20. The ONLINE UPS is constructed of replaceable sub-assemblies. Printed circuit assemblies are plug-in type.

Cooling

Cooling of the ONLINE UPS is by forced air ventilation. Low velocity fan is used to minimize audible noise output. Fan power is provided by the ONLINE UPS output. Temperature is monitored by thermal censors.

Cable Entry

Standard cable entry for the ONLINE UPS module is from the bottom/top as required through detachable gland plate.

Maintenance Bypass Isolator

General

A manually operated maintenance bypass isolator is incorporated into the ONLINE UPS cabinet to directly connect the critical load to the input AC power source, bypassing the rectifier/charger, inverter, and static transfer switch.

Maintenance Capability

With the critical load powered from the maintenance bypass circuit, it is possible to check out the operation of the rectifier/charger, invert, battery, and static transfer switch.

Display and Controls

Monitoring &Controlling: The ONLINE UPS is provided with a microprocessor based unit status display &controls section designed for convenient and reliable user operation. A system power flow diagram, a percentage load and battery time remaining display is provided as part of the monitoring and controls sections which depicts a single line diagram of the ONLINE UPS illuminated visual indicators is of the long life LED type. All of the operator controls and monitors is located on the front of the ONLINE UPS Cabinet.

Metering

The following parameters are displayed:

- DC Voltage
- Battery voltage
- Battery charge &discharge current
- Bypass voltage and frequency
- Output AC voltage line-to-line and line to neutral and % load used of nominal
- Output AC current for each phase and neutral
- Output frequency
- Active power (KW) Apparent Power (KVA)
- Temperature - Ambient, battery, inverter and transformer

Warning and Alarm Messages

- Normal Operation, Input breaker open
- Output breaker open
- Battery breaker open
- Bypass absent, Bypass over limits
- Bypass under limits, Bypass freq. over limit
- Bypass inhibit
- Load on bypass,
- Rectifier off or failed
- Inverter off or failed
- ONLINE UPS unsynchronized
- D.C Volts over voltage
- D.C under voltage and end of discharge pre-alarm
- DC Bus over volts Battery Low
- Emergency stop
- ONLINE UPS Overload

Controls

Four pushbuttons is located on the operator control panel.

- Enter
- Escape
- UP
- Down

The push buttons permit the operator either to select options from a menu for display on the LCD winder or to change the value of some parameters. One push-button-alarm silence switch.

Power Status Diagram

A mimic panel is provided to depict a single line diagram of the ONLINE UPS.

Indicating lights is integrated within the single line diagram to illustrate the status of the ONLINE UPS. The three LEDs indicate the following status.

- Bypass voltage OK
- Load on bypass
- Load on inverter

Power status diagram is an LED bar graph indicating % load with amber overload indication. Also, an LED bar graph indicating % battery time remaining is included.

ADDITIONAL CONDITIONS AND SPECIFICATIONS FOR THE WORK OF for DG set

1. SITE INFORMATION:-

The tenderer should, in his own interest, visit the site and familiarize himself with the site conditions before tendering. For any clarification, tenderer may discuss with the Engineer - in- Charge.

2. CONFORMITY WITH STATUTORY ACTS, RULES, STANDARDS AND CODES

i) All components shall conform to relevant Indian Standard Specifications, wherever existing, amended to date. A list of such standards is appended in Appendix-"V"

ii) All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 2003 and Indian Electricity Rules, 1956 as amended up to date. They shall also conform to CPWD General Specifications for Electrical Works, Part-I (Internal), 2023 and Part-II (External), 2023 and Part IV (Sub- station), 2013, and Part – VII (DG Set), 2013 as amended up to date.

3. SAFETY CODES AND LABOUR REGULATIONS

(i) In respect of all labour employed directly or indirectly on the work for the performance of the contractor's part of work, the contractor at his own expense, will arrange for the safety provisions as per the statutory provisions, B.I.S recommendations, factory act, workman's compensation act, CPWD code and instructions issued from time to time. Failure to provide such safety requirements would make the tenderer liable for penalty for Rs. 200/- for each violation. In addition the Engineer-in-charge, shall be at liberty to make arrangements and provide facilities as aforesaid and recover the cost from the contractor.

(ii) The contractor shall provide necessary barriers, warning signals and other safety measures while executing the work of Gen Set installation, cables etc. or wherever necessary so as to avoid accident. He shall also indemnify CPWD against claims for compensation arising out of negligence in this respect. Contractor shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause. The department shall not be responsible for any accident occurred or damage incurred or claims arising there from during the execution of work. The contractor shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the contractor due to the above provisions thereof.

4. WORKS TO BE ARRANGED BY THE DEPARTMENT.

Unless otherwise specified in the tender documents, Space for accommodating all the equipments and components involved in the work. However, watch and ward shall be responsibility of the contractor.

5. WORKS TO BE DONE BY THE CONTRACTOR

Unless otherwise specified in the tender documents, the following works shall be done by the contractor and therefore, their cost are deemed to be included:

(i) Foundations for equipments including vibration isolation springs/ pads,

(ii) Making good all damages caused to the structure during installation and restoring the

same to their original finish.

(iii) Minor building works necessary for installation of equipments, foundation trench for fuel line & cable, making of opening in walls or in floors and restoring them to their original condition/ finish and necessary grouting etc. as required.

(iv) All supports for exhaust & water pipes, chimney, bus trucking (if included in scope of contract), cables, anti-vibration pads etc. as are necessary.

(v) All electrical work and neutral earthling, body earthling, required for engine & alternator, main board/ control panels, and control wiring including loop earthling, if specified in Schedule of Work.

(vi) All pipes, bus trucking and/ or cable connections.

(vii) POL i.e. HSD oil and lub. oil for diesel engine for testing & commissioning for 12 hours i/c 1hr of 10% overloading at OEA/ OEM works shall be arranged by the contractor. POL i.e. HSD oil and lub. oil for trial run of 4 Hrs. at site at available load shall be arranged by the contractor.

(viii) Painting of all exposed metal surfaces of equipments and components with appropriate colour.

(ix) Clearance/ Approval of the complete installation from CPCB/ State Pollution Control Board, Central Electricity Authority (CEA)/ Local Bodies and other licensing authorities, wherever required.

6. RATES

i) The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including GST, works contract tax), duties and levies and all charges for packing, forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site including temporary constructional storage, risks, overhead charges, general liabilities/ obligations etc.

ii) The contractor has to carry out routine and preventive maintenance as per manufacturer's standards for a period of 12 months from the date of handing over.

7. POWER SUPPLY

(i) Unless otherwise specified, no power supply shall be provided by the department to the contractor. Termination switchgear however, shall be provided by the contractor. Further extension if required shall be done by the contractor.

8. WATER SUPPLY

Water supply shall be arranged by the contractor without any extra cost.

9. MACHINERY FOR ERECTION

All tools and tackles required for unloading / handling of equipments and materials at site, their assembly, erection, testing and commissioning shall be the responsibility of the contractor.

10. COMPLETENESS OF THE TENDER, SUBMISSION OF PROGRAMME,

APPROVAL OF DRAWINGS AND COMMENCEMENT OF WORK

(i) Completeness of the tender

All sundry equipments, fittings, assemblies, accessories, hardware items, foundation bolts, supports, termination lugs for electrical connections, cable glands, junction boxes and all other sundry items for proper assembly and installation of the various equipments and components of the work shall be deemed to have been included in the tender, irrespective of the fact that whether such items are specifically mentioned in tender documents or not.

(ii) Submission of programme

Within fifteen days from the date of receipt of the letter of acceptance, the successful tenderer shall submit his programme for submission of drawings, supply of equipment, installation, testing, commissioning and handing over of the installation to the Engineer-in- Charge. This programme shall be framed keeping in view the building progress.

(iii) Submission of Drawings

The contractor shall submit the drawings to the Engineer-in-Charge for approval before start of work.

(iv) Commencement of Work

The contractor shall commence work as soon as the drawings submitted by him are approved. The drawings are to be submitted by the contractor within 15 days of stipulated date of start, and shall be approved by the Engineer-in- Charge within 10 days of receipt in his office.

11. DISPATCH OF MATERIALS TO SITE AND THEIR SAFE CUSTODY

The contractor shall dispatch materials to site in consultation with the Engineer-in-Charge. Watch & ward however, shall be the responsibility of contractor. Safe custody of all equipment/ items supplied by the contractor shall be the responsibility of the contractor till final taking over by the department.

12. CO-ORDINATION WITH OTHER AGENCIES

The contractor shall co-ordinate with all other agencies involved in the work so that the work of other agencies is not hampered due to delay in his work.

13. INDEMNITY

The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the contractor shall be responsible for any accident or damage incurred or claims arising there from on the department during the period of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer on account of the above.

14. QUALITY OF MATERIALS AND WORKMANSHIP

(i) The components of the installation shall be of such design so as to satisfactorily function under all conditions of operation.

(ii) The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice. The entire installation shall be such as to cause minimum transmission of noise and vibration to the building structure.

(iii) All equipment and materials to be used in work shall be manufactured in factories of good repute having excellent track record of quality manufacturing, performance and proper after sales service.

15. CARE OF THE BUILDING

Care shall be taken by the contractor during execution of the work to avoid damage to the building. He shall be responsible for repairing all such damages and restoring the same to the original finish at his cost. He shall also remove all unwanted and waste materials arising out of the installation from the site of work from time to time.

16. INSPECTION AND TESTING

The successful tenderer will arrange staff/fuel/POL for test run at his cost

For DG sets of capacity equal to or less than 200 KVA,

For DG sets of capacity equal to or less than 200 KVA testing shall necessarily be carried out at site .However, initial inspection can be done at factory/manufacturer works before dispatch at site of work at the discretion of Engineer-in-Charge. All major items/ equipment i.e. engine & alternator in assembled condition, Electrical control panel etc. shall be offered for initial inspection at factory/ manufacturers works. The cost of the Engineer's visit to the factory will be borne by the Department. After initial inspection, DG Set and associated Electrical panel equipments shall be cleared for dispatch at site.Copies of all documents of routine and type test certificates of the equipment, carried out at the manufacturers premises shall be furnished to the Engineer-in-charge and consignee. After completion of the installation work in all respects, the contractor shall offer the DG Sets for testing. The requirement of testing of DG Set at manufacturer's premises, in presence of representative of the Department, can be dispensed with/ waived off, keeping in view the exigency of works, with the prior approval of the Superintending/Chief Engineer. However, test certificates of the particular DG Set on full load, shall be submitted at the time of delivery of DG Set at site.

17. Trial Run/Running-in-Period

After successful testing of the GEN Set, a trial run at available load will be carried out for 120 Hours or 15 Days whichever is earlier. The GEN Set will be operated and a log of all relevant parameters will be maintained during this period. The arrangement of staff for trial run/ running in period will be made by the successful tenderer. Diesel shall be provided by contractor. The contractor will be free to carry out necessary adjustments. The GEN Set will be said to have successfully completed the trial run, if no break-down or abnormal/ unsatisfactory operation of any component of the entire installation included in the scope of work of the contract, occurs during this

period. After this the GEN Set will be made available for beneficial use. After the GEN Set has operated without any major break-down/ trouble, it shall be taken over by the department subject to guarantee clause of the contract. This date of taking over of the GEN Set, after trouble free operation during the trial run/ running-in period, shall be the date of acceptance/ taking over.

18. STATUTORY CLEARANCE(S)

Approval/ clearance of the complete installation shall be obtained by the contractor from CPCB/ State Pollution Control Boards/ Local Bodies/ Central Electricity Authority (CEA)/ other licensing authorities wherever required. However, any statutory fee, as applicable, shall be initially paid by the contractor & shall be reimbursed after submission of original bill & payment voucher.

19. GUARANTEE

All equipments shall be guaranteed, against unsatisfactory performance and/ or break down due to defective design, workmanship or material, for a period of 12 months from the date of taking over the installation by the department. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer-in- Charge. In case it is felt by the department that undue delay is being caused by the contractor in attending the defect/ fault removed, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in- charge in this regard shall be final.

20. PAYMENT TERMS

The following percentage of **contract rates** shall be payable against the stages of work shown herein:

Stage of Work	**% of Payment**
I After initial inspection (wherever specified) & delivery at site in good condition on pro-rata basis	70%
II On completion of pro-rata installation	15 %
III On commissioning and completion of successful running in period.	10 %
IV Complete handing over of the installations in all respect	5%

Deduction of Security Deposit shall be governed by standard/ relevant clauses of CPWD-7/8.

21. TENDER DRAWINGS, DRAWINGS FOR APPROVAL & COMPLETION DRAWINGS

i) **<u>Tender Drawings</u>**

The drawings appended with the tender documents are intended to show space allotted for various equipments. The equipments offered shall be suitable for installation in the spaces shown in these drawings.

ii) **<u>Drawings for Approval on Award of the work</u>**

The contractor shall prepare & submit three sets of following drawings and get them approved from the Engineer-in-charge before the start of the work. The approval of

drawings however does not absolve the contractor not to supply the equipments/ materials as per agreement, if there is any contradiction between the approved drawings and agreement.

- Lay out drawings of the equipments to be installed including control cables, fuel/ lube oil pipes and supports/ structure for exhaust piping, Chimney and bus ducts/ cable trays. Drawings including section, showing the details of erection of entire equipments.
- Electrical wiring diagrams from engine-alternator set to Electrical control panel, Electrical control panel to essential LT board including the sizes and capacities of the various electrical/ control cables and equipment.
- Dimensioned drawings of Acoustic enclosure/ Engine-Alternator set and Electrical control panel.
- Drawings showing details of supports for pipes, chimney cable trays, ductsetc.
- Any other drawings relevant to the work.

iii) **Drawings/Documents to be furnished on completion of Installation**

Two sets of the following laminated drawings shall be submitted by the contractor while handing over the installation to the Department. One set shall be laminated on a hard base for display in the GEN set room/room where AMF panel is installed and another set shall be displayed in Junior Engineer's room. In addition, drawings will be given on Compact Disc (CD):

- Gen set installation drawings giving complete details of all the equipments, including their foundations.
- Line diagram and layout of all electrical control/AMF panels giving switchgear ratings and their disposition, cable feeder sizes and their layout.
- Control wiring drawings with all control components and sequence of operations to explain the operation of control circuits in AMF panel/PCC.
- Manufacturer's technical catalogues of all equipments and accessories.
- Operation and maintenance manual of all major equipments, detailing all adjustments, operation and maintenance procedure.

22. AFTER SALES SERVICES

The contractor shall ensure adequate and prompt after sales service free of cost during guarantee period, and against payment after the guarantee period is over, in the form of maintenance, spares and personnel as and when required during normal life span of the equipments and shall minimize the breakdown period. In case of equipment supplied by other manufacturers the firm shall furnish a guarantee from the manufacturer for the same before the Gen Set installation is taken over

23. ERECTION TOOLS:

No tools and tackles either for unloading or for shifting the equipments for erection purposes would be made available by the department. The successful tenderer shall make his own arrangement for all these facilities.

24. INSURANCE AND STORAGE:

All consignments are to be duly insured upto the destination from warehouse at the cost of the contractor. The insurance covers shall be valid till the equipment is handed over duly installed, tested and commissioned.

25. VERIFICATION OF CORRECTNESS OF EQUIPMENT AT DESTINATION:

The contractor shall have to produce all the relevant records to certify that the genuine equipments from the manufacturers has been supplied and erected.

26. TRAINING:

The scope of works includes the on job technical training of two persons of Department/ related maintenance manpower at site. Nothing extra shall be payable on this account.

27. MAINTENANCE:

Sufficient trained and experienced staff shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation. The maintenance, routine as well as preventive, for one year from the date of taking over the installation as per manufacturer's recommendation shall be carried out as per OEM standards.

28. COMPLIANCE WITH REGULATIONS AND INDIAN STANDARDS:

i) All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by this specification. In particular, the equipment and installation will comply with the following:

- Factories Act.
- Indian Electricity Rules.
- B.I.S. & other standards as applicable.
- Workmen's Compensation Act
- CPCB norms as applicable
- Statutory norms prescribed by local bodies like CEA, Power Supply Co., etc.

ii) After completion of the installation, the same shall be offered for inspection to the Engineer in charge of his authorized representative. The contractor will extend all help including test facilities to the representatives. The observations of theirs if any will be attended by the contractor. The installation will be commissioned only after getting clearance from clients that the system is perfectly working.

29. The contractor shall have to obtain prior approval from Engineer -in -charge before placing the order for any specific materials. The Engineer -in -Charge may approve any of the makes/Brands out of the list of accepted makes (enclosed). All the materials to be used in the work shall be got approved by the Engineer -in-charge prior to their actual in the work.

30. Lowest tenderer will submit, after the award of tender, an undertaking from the OEM regarding:

i) Authorization certificate.

ii) The OEM is unconditionally support the lowest tenderer technically throughout the

execution of contract as well as for Maintenance/ Comprehensive Maintenance Contract for the useful life of the system, and

iii) OEM provides all the spares required for healthy functioning of the equipment for at least seven years from the date of supply of equipment.

31. Testing charges to be borne by contractor: All expenditure to be incurred for testing of samples e.g. sample, packing, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.

ADDITIONAL CONDITIONS AND SPECIFICATIONS FOR THE WORK OF FIRE ALARM SYSTEM

1. The items of work detailed in enclosed schedule of quantities should be carried out as per CPWD Specification 2023 Part-I (Internal), Part-II (External) 2023 and Part VI (Fire Detection & Alarm Systems) 2020 As amended upto date. In case of any deviation between these additional conditions and specifications and the provisions contained in C.P.W.D. General Specifications, these additional specifications shall have precedence. Nothing extra shall be paid for complying with these additional specifications which are mandatory. All materials used in the work as far as applicable shall comply to the relevant Indian Standard Specifications with all its upto date amendments. The materials having ISI mark shall have precedence over the ones conforming to I.S.I. specifications.
2. The Fire Alarm system shall comply with latest requirements of NFPA / IS standards.
3. Installation shall be in accordance with the local and state codes, as shown on the drawings, and as recommended by the equipment manufacturer.
4. All fire alarm system devices, control panels and remote enunciators shall be flush mounted or surface mounted as per instructions of the Engineer-in-charge.
5. Manual call boxes shall be suitable for surface mounting or semi-flush mounting and shall be installed at a height of not less than 1,000 mm, or more than 1200 mm above the finished floor level.
6. At the final inspection, a factory-trained representative of the manufacturer of the major equipment shall demonstrate that the system functions properly in every respect.
7. The Contractor shall completely check out, calibrate and test all connected hardware and software to ensure that the system performs in accordance with the approved specifications and sequences of operations submitted.
8. The following manuals shall be provided at the time of Handing over:

a) An Operator's Manual shall contain graphic explanations of keyboard use for all operator functions specified under Operator Training.

b) Computerized printouts of all data file layouts including all point processing programming details, flow charts, etc.

9. On completion of works **"As Built"** drawings for completed installation shall be prepared by the Contractor and (5) five copies of the same will be supplied to the Engineer-in-Charge. In addition, (5) Five sets of all Operation Manuals, Technical Literature for the various components of equipment, Controls and Accessories

installed, Recommended Spares and Services Manuals will be supplied by the Contractor to the Engineer-in-charge.

10. The contractor shall guarantee the entire Fire Alarm system installation as per specifications both for components and for system as a whole. All equipment shall be guaranteed for **One year from the date of handing over to the Department** against unsatisfactory performance or breakdown due to defective design, manufacture and/or installation. The installation shall be covered by the conditions that the whole installation or any part thereof found defective within one years from the date of completion shall be replaced or repaired by the contractor free of charge as decided by the Engineer-in-Char.
11. The Contractors' scope of work will include all items of work as per these specifications, drawings, terms and conditions of contract etc. and briefly described in schedule of quantities. This shall include, but not be restricted to the following: -

a) Main Fire Alarm Control Panel for connecting and monitoring the Fire devices.
b) Low /High Intensity Hooters activated from the Panel.
c) Providing suitable compatibility in the Main Fire Alarm Control Panel for the Public Address System, audio Amplifiers, speakers & required wiring.
d) All other works associated with above items as per specifications, drawings and conditions of contract and the local Fire Brigade requirements except those specifically excluded in Schedule of Quantities.

12. Unless otherwise indicated in Schedule of Quantities and drawings, the Contractor's scope of work will exclude only the following items of work and services, which will be arranged by the Engineer-in-charge through other contractors, if required.

a) Provisions of adequate AC, single/ three phase, 230/415 V, 50 HZ supply with earthing for Fire Control Panels etc.
b) Necessary Cabling for interconnecting various components of the fire alarm system.

13. **The fire alarm panel shall operate 240V+ 10% 50Hz**. The FDAS shall also be provided with a dedicated stand by power supply system (battery and charger) capable of maintaining the system for a period of not less than 24 hours after failure of ac power supply after which sufficient battery shall remain to provide full load operation for at least 30 minutes in line with IS 2189.
14. The Fire Alarm control panel shall have the following features.

14.1. The FA panel should be modular and should be **expandable from two loop to up to 6 loops.**
14.2. FACP shall supervise detection circuits and shall generate an alarm in case of abnormal conditions.
14.3. FACP shall provide general purpose inputs for monitoring such functions as low battery or AC power failure. FACP shall provide tamper protection and commendable outputs, which can operate relays or logic level devices.
14.4. FACPs shall provide monitoring and control of one floor or area or for multiple floors or areas.

14.5. FACPs shall meet the following requirements to assure the integrity and reliability of the system:

a) The panel should have a 230V AC power supply unit in plug-in design with rack and panel connector and a 24VDC/6A output power supply. The module should be protected against overvoltage and reverse polarity. The output voltage is monitored and regulated externally.
b) LED display at the FACP shall be provided to indicate point in alarm or trouble. In such systems, means for manually scanning the points in trouble shall be provided and a trouble and alarm LED shall be used to indicate that there are points in alarm/trouble. The alarm/trouble LED shall only extinguish when all alarm/troubles are cleared from the loop.
c) It shall be possible to command test, reset and alarm silence from the FACP.
d) FACP switches shall allow authorized personnel to accomplish the following :

i. Acknowledge a general alarm condition.
ii. Silence the local audible alarm.
iii. It shall be possible to Silence the alarm indicating devices (hooters).
iv. Reset all zones (Logical Point Group) / points, after all initiating devices have returned to normal.
v. Perform a complete operational test of the memory with a visual indication.
vi. Test all panel LEDs for proper operation without causing a change in the condition of any zone (Logical Point Group).
vii. Walk Test

14.6. FACP shall be backed up with its built-in UPS power.
14.7. The display on FACP shall provide indication for AC Power, System Alarm and System.
14.8. Trouble/Security Alarm, Display Trouble and Signal Silence.
Power supply unit of FACP shall have following characters:

i. The main power supply shall be 230 VAC±10%, 50 Hz±3% and shall in turn provide all necessary power of the FACP.
ii. It shall provide a separate battery control module with charger.
iii. For ease of service, all wiring terminal blocks shall be plug-in type.

TECHNICAL SPECIFICATIONS for Fire Fighting System

1. The items of work detailed in enclosed schedule of quantities should be carried out as per CPWD Specification 2013 Part-I (Internal) 2005, Part-II (External) 1995 and Part V (Wet riser & Sprinkler Systems) 2006 as amended upto date. In case of any deviation between these additional conditions and specifications and the provisions contained in C.P.W.D. General Specifications, these additional specifications shall have precedence. Nothing extra shall be paid for complying with these additional specifications which are mandatory.

2. All materials used in the work as far as applicable shall comply to the relevant Indian Standard Specifications with all its up to date amendments. The materials having ISI mark shall have precedence over the ones conforming to I.S.I. specifications

3. **Electrical Driven Pump sets**

3.1. The electrical fire pumps shall be suitable for automatic operation and both the motor and pump shall be assembled on a common bed plate of fabricated M.S. channel or cast Iron Type. The pumps shall be horizontal split casing centrifugal type direct driven by means of a flexible coupling with coupling guard. The pumps shall be multi stage designed for continuous operation and shall have a continuously rising head characteristic without any zone of instability.

3.2. The motor for each pump shall have a 15% margin of power rating over the rated pump input power and shall be totally enclosed fan cooled type conforming, to protection clause-IP-55 as per IS 4691. The class of insulation shall be **'F'** and motor shall be rated for continuous duty and shall have Horse Power necessary to drive the pump at 150 percent of its rated discharge with at least 65% rated head. The motor shall conform to IS 325 - 1978.

3.3. In case the Pump & Motor are from different manufacturers, the contractor shall assume full responsibility in the operation of the pump and the drive as one unit.

3.4. All pumps shall be capable of a minimum of 150 percent of rated discharge capacity at a total head of not less than 65 percent of the total rated head. The total shut-off head shall be within 120 percent of total rated head on the pump.

3.5. An Automatic air release valve shall be provided to vent air from the pump. This valve shall be located in the pump house in the discharge line between the pump and the discharge check valve.

3.6. The pump casing shall be capable of withstanding 1.5 times the working pressure developed by the pump.

3.7. The parts like impeller, shaft sleeve wearing ring etc. shall be of non-corrosive metal like bronze/brass/gun metal. The shaft shall be of stainless steel.

3.8. The bearings of the pumps shall be effectively sealed to prevent loss of lubricant or entry of dust or Water.

3.9. The pumps shall be provided with plates indicating the suction lift, delivery head, discharge, speed and number of stages.

3.10. The cable boxes and terminations of motors shall be suitable for receiving 1.1 KV grade armoured power cables and so designed to enable easy disconnection and replacement of cables.
3.11. The base plate shall be supported on suitable height cement concrete foundation of 1:1½:3(1 cement 1½ Coarse sand: 3 stone aggregate) ratio. Angle Iron frame of Size 35mmx35mmx3mm shall be provided on the top as of the foundation.
3.12. Vibration pads shall be provided with Electrical Pump.

4. Piping

4.1. Only M.S. black steel pipes (ISI Marked) shall be used.
4.2. M.S. pipe upto 150mm dia shall have all fittings as per IS: 1239 Part-II (heavy grade)
4.3. For M.S. pipes upto 50mm dia screwed jointing shall be adopted, while for pipes above 50mm dia welded or flanged connections shall be used.
4.4. Any hangers and supports used shall be capable of carrying the sum total of all concurrently acting loads. They shall be designed to provide the required supporting effects and allow pipe lines movements as necessary.
4.5. Flanged joints shall be used for connections to vessels, equipment, flanged valves and also on suitable straight length of pipe line of strategic points to facilitate erection and subsequent maintenance work.
4.6. All pipe lines shall be pressure tested to 10.5 kg/sq.cm.
4.7. Pipes shall be given one primary coat of red-oxide paint before being installed Pipes shall be sloping towards drain points.
4.8. Fittings shall be new and from reputed manufacturer. Fittings shall be of malleable casting of pressure ratings suitable for the piping system. Fittings used on welded piping shall be of the weldable type. Flanges shall be new and from standard manufacturers.
4.9. Tee-off connection shall be through reducing tees, wherever possible, otherwise ferrules welded to the main pipe shall be used. Drilling and tapping of the walls of the main pipe shall not be resorted to.
4.10. All equipment and valve connections shall be through flanges
4.11. All welded piping is subject to the approval of the Engineer-in-charge and sufficient number of flanges and unions shall be provided.

5. Piping Installation

5.1. Piping shall be properly supported on C.C. base at suitable intervals or suspended by stands, clamps, hangers etc. as specified and as required. The tenderer shall adequately design all the supports, brackets, saddles, clamps, hangers etc. and be responsible for their structural integrity
5.2. For suspending smaller size pipes suspension arrangements including materials like dash fasteners, saddles, brackets etc. shall be provided and fixed by the contractor undertaking this work.

5.3. Pipe supports shall be of steel, adjustable for height and primer coated with rust preventive paint and finish coated black. Where pipe and clamp are of dissimilar material, a gasket shall be provided in between. Pipe supports shall be spaced suitably keeping in view the site and structural requirements of different locations. Pipe hangers shall be fixed on walls and ceilings by means of dash fasteners.

5.4. All pipes using screwed fittings shall be accurately cut to the required sizes and threaded in accordance with IS: 554 and burs removed before laying. Open ends of the piping shall be locked as the pipe is installed to avoid entrance of foreign matter. Wherever reducers are to be made in horizontal runs, eccentric reducers shall be used if the piping is to drain freely, in other locations concentric reducers may be used.

6. Gate Valves

Sluice/gate valves shall be used for isolation of flow in pipe lines For sized upto 50 mm. gate valves shall be outside screw rising spindle type and shall be as per IS: 778 Class-I and Class-II, as applicable. For sized 80 mm to 300 mm, gate valve shall be as per IS: 780, PN=1.6 and shall be of inside screw and non-rising type and cast iron double flanged. Gate valves shall be provided with a hand wheel, bypass valve, draining arrangement of seat valve. Gate valves shall have back setting bush to facilitate gland renewal during full open condition. The Body, bonnet, Stuffing Box, cap and hand wheel shall be of cast iron to IS: 210/70, grade FG 200/260. The non-rising spindle shall be of solid forged high tensile brass or carbon steel to AISI 304 construction. The body seating and wedge ring shall be of solid leaded gun metal. The Bonnet gasket shall be of high quality rubber. The Valve shall be rated to PN 1.6. The ends shall be flanged. The batch number of the valve shall be punched on the top of the flange. The spindle shall be removable type, and shall be easily rotated.

7. Hose Reel

The Hose Reel shall be drum type. The rubber Hose Pipe shall be fixed on a drum that shall be fixed to the wall by means of a heavy duty bracket. The rubber tubing shall be of approved make. The wall mounted bracket shall be fixed by means of fasteners. The Hose Reel shall have G.M. nozzle. The Hose Reel shall be connected to the Riser by means of 25 mm dia MS pipe with threaded bends, union etc. A cut off Ball Valve shall also be provided.

8. External Hose Cabinets

Each hydrant/Fire Brigade inlet/connections shall be housed in a MS sheeted Hose Cabinet of 0.6 × 0.5 × 0.45 mt. The Hydrant Cabinet shall hold single headed hydrant, 2 nos. Hose and 1 no Branch pipe. The Cabinet shall be of minimum 2 mm thick MS sheet and framing of MS sheet of 25 × 25 × 4 mm thick angle section with single opening glazed doors (clear glass of 4 mm thickness). The glass shall be firmly fixed by means of steel clips and screws. Hinges shall also be screwed and not welded. The Hose Cabinet paint shall be stove enamelled of approved colour

9. Hydrant

Hydrant valve shall be of gum metal as per IS: 5290. The valve shall be oblique type complete with hand wheel, quick coupling connection, spring and gun metal blank cap

as per I.S. :5290. The Hydrant shall be constructed from gun metal and finished to a smooth polish on screwed ends. The Hydrant shall have screwed inlet of 75 mm dia, flanged type with 4 nos. holes. the outlet shall be 63 mm female instantaneous oblique type. The Hydrant shall have a plug with chain fixed to the main body of the Hydrant. The Hydrant shall be tested to 20 kg/cm2 test pressure. The Hydrant shall not leak at any screwed joint. Threaded parts shall be sealed with Holdtite.

10. Fire Brigade Inlet

For Brigade Inlet Connection shall be taken directly to the Riser. It shall comprise of two instanteous male inlet coupling with plug and steel chain. The Inlet shall have a wafer type non return valve and a butterfly valve on the line upto the riser. The Fire Brigade Inlet shall be complete with necessary components like special fittings of MS bends, flanged tees etc. The plug shall be of moulded PVC. Fire Brigade Inlet for Tank Filling by fire Brigade shall be four way with gun metal instanteous male inlet coupling connection for connection with Fire Brigade vehicles. The inlets shall be provided with ABS Quality by Plastic Blank caps with chain and arrangement for attaching the blank cap & chain to the FB inlet. 16.0 Valve Pits A masonry pit of internal dimension 1 M × 1 M × 1.2 M depth shall be built to accommodate each of the valves placed externally. Walls shall be of 75 class designation brick work in cement mortar 1:6 (1 cement : 6 fine sand) with CI manhole cover with frame. Inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement all complete.

11. Couplings

Couplings shall be of gun metal as per IS: 318, machined and polished to requirements. Both Male and female couplings shall be fitted into each other smoothly and without any unnecessary force. Couplings shall be IS: 903 marked with the name of the manufacturer. the coupling shall be tested to 20 kg/cm2 test pressure. The Male couplings shall be provided with lugs for inserting female coupling.

12. Branch Pipe

The fog nozzle shall be constructed from Gunmetal alloy as per IS:318, LTB 2 grade, and finished to a smooth polish. The Fog Nozzle shall have handle type operation. The Branch pipe shall be able to give straight stream, high pressure fog and shut off, all provided by the operation of the handle-lever. The Fog Nozzle shall be as per IS: 903. The Branch Pipe shall be tested to 20 kg/cm2 pressure.

13. Non Return Valve

Non-return valves shall be cast iron swing action gravity actuated check type. An arrow mark in the direction of flow be marked on the body of the valve. The valve shall bear IS: 531 certification. The Valve shall be of cast iron body and cover. The internal flap in the direction of flow of water shall be of cast iron and hinged by a hinge pin of high tensile brass or stainless steel. Cast iron parts shall be conform to IS: 210/70, grade 200/260 type. The gasket shall be of high quality rubber and flap seat ring of leaded gun metal to BS 1400 LG 2C. At high pressure of water flow the flapper shall seat tightly to the seat. The Valve shall be capable of handling pressure upto 15 kg/cm2 .

14. Gun Metal Valves

Gun metal Valves shall be used for smaller dia pipes, and for threaded connections. The Valves shall bear certification as per IS: 778, and shall be rated to 15 kg/cm2 pressure. The body and bonnet shall be of gun metal to IS: 318, grade LTB 2. The stem, gland and gland nut shall be of forged brass to IS: 319. The hand wheel shall be of cast iron to IS: 210, grade FG 200/260. The Hand wheel shall be of high quality finish to avoid hand abrasions. Movement shall also be easy. The spindle shall be non-rising type.

15. CODES & STANDADS :

The following codes and standards and their subsequent modification shall apply for the design, manufacture, shop testing, erection, fabrication at site, testing and trial operation of piping, valves and special requirements.

1. IS : 554 - Dimensions for pipe threads where pressure tight joints are required on the threads.

2. IS : 638 - Sheet rubber jointing and rubber insertion jointing.

3. IS : 778 - Copper alloy gate, globe and check valves for water work purpose.

4. IS : 780 - Sluice valve for water works purposes (50mm to 400mm)

5. IS : 901 - Coupling, double male and double female, instantaneous pattern for fire fighting.

6. IS : 1239 - Mild steel tubes, tubulars and other wrought (Part I & II) steel fittings.

7. IS : 10221 - Anti corrosion treatment for underground M.S. pipe.

IS : 5321 - Swing check type reflux (Non-return) valves

FIRE ACCESSORIES

IS : 5290 - Landing valves

IS : 903 - Hose coupling, Branch pipe

IS : 884 - Hose Reels Drum

IS : 663 Type A - RRL Hose reel

Terms and Condition for Solar Photo Voltaic Power Generation System

GENERAL SCHEME & SCOPE

This document contains the requirement of on -grid/grid interactive Solar Photo Voltaic (SPV) power supply System for general electrical load. Suitable size of solar photovoltaic system is to be installed at each location and has to feed all the electrical installations in the campus and shall be importing power to the grid also. The Power Conditioning Unit (PCU) shall be Grid tied, i.e. with a priority for use of Solar power for general electrical load and if the solar power becomes inadequate due to solar radiation outage or the fault in solar generation system then, Main/grid supply shall be used for meeting the power demand due to general electrical load.

The scope of work include designing and providing suitable size of Grid interactive solar power system, PCU (power conditioning unit), all measuring devices, indication devices, protection Devices, switching devices with all necessary wiring, cabling, terminations, mounting structure on MS structure of the covered pathway and any other item needed for proper functioning and protection of system from external/internal causes & from all kind of surges etc. System shall be designed with sound engineering and state of the art manner.

DEFINITION

In an on grid solar photovoltaic system, an array of solar panels are connected with solar inverter which is connected to the grid through meter. The solar panels converts sunlight into DC electricity which is then converted into alternating current termed as AC power. A Grid Connected Solar Rooftop Photo Voltaic (SPV) system consists of Solar PV modules combined into arrays, Mounting Structure, Inverter/Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Controls & Protections, interconnection cables and switches. PV Array(s) to be mounted on a suitable structure. Grid connected SPV power plant is without battery and should be designed with necessary features to supplement the grid power and interact with mains power during day time. Components and parts used in the Solar power plants including the PV modules, metal structures, cables, junction box(s), switches, inverters/PCUs etc. should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.

GRID TIED SPV POWER SUPPLY SYSTEM:

Grid tied solar inverters are suited for outdoor/indoor use and the ideal solution for medium voltage application. The inverters provide a wide maximum point power tracking (MPPT) voltage range on effective efficiency more than as per schedule of quantities.

SITE LAYOUT DESIGN:

The contractor will submit his layout design for SPV module including its structure details to Engineer in charge for approval before start of work. The contractor should visit the site before quoting the tender to have idea of the site related preparation to be included in their offer.

SPV MODULE/ARRAY:

Solar Photo Voltaic Generating Sources: SPV generating sources constituted of following building blocks:

SPV Module: SPV Module is the basic building block of the SPV power supply, which consists of a number of Solar cells (Semiconductor Devices which when exposed to sunlight produces DC electricity) connected in series and hermetically sealed with a toughened and highly transparent front glass cover. These modules are connected in series as well as in parallel to get the desired power and voltage. The Rated DC current of One solar PV module shall be 330Wp or higher. Solar PV modules shall be PID (Potential induced degradation) free.

SPV Panel: SPV Modules of same rating are connected in series to form a SPV panel to get the desired voltage.

SPV Array: A number of panels are connected in parallel to get the desired power. This whole combination is called an array. The SPV array is designed in such a way that, it provides simultaneous power to meet the load demand, when sufficient solar irradiation is available**.**

Design Features: The mechanical design and construction of SPV modules, panels and mounting structure shall be inherently robust and rigid under all conditions of operation, adjustment, storage and transport. Sharp edges shall be avoided.

Array capacity of each power plant shall not be less than 3 kWp @ standard test conditions depending on size of the power plant. Number of modules required shall be worked out accordingly. Standard test conditions shall be solar irradiance of 1000w/m2, cell operating temp. Of 25 Deg C and spectral AM of 1.5.
Single module with the highest wattage is preferred. Solar PV module array will be made by utilizing Poly/mono Crystalline high efficiency Silicon Solar PV cells. Minimum power output guarantee offered for the SPV Module shall not be less than for a period of 25 years as per the tender conditions. Individual solar PV module rating shall not be less than 330 Wp at standard test conditions. Each Solar PV module offered shall meet following minimum requirements.

SOLAR PHOTOVOLTAIC MODULES- General features:

The module conversion efficiency of the PV modules should be minimum 23% under standard test conditions.

The solar PV modules shall be MNRE approved. If PV module is not MNRE approved, a certificate of MNRE approved laboratory shall be obtained and submitted by the agency.

Test Certificate issued by one of the MNRE/ MNRE authorized test centre(s). Modules of any type and of mono/poly crystalline film can be used.

The module type must be qualified as per IEC 61215 latest edition. Modules must qualify to IEC 61730 Part I and II for construction and safety qualification testing.

Certificate of MNRE approval to be submitted prior to delivery. I-V curve of each PV module with serial number of each module should be submitted along with supply of modules. Solar PV modules shall conform to IEC-61215 standards. Documentary evidence of IEC- 61215 certification shall be submitted after award of work but prior to supply of material.

The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 330 Wp and above wattage per module. Solar PV modules having Power generation capacities less than minimum 330 Watts shall not be accepted. Test reports of the modules should be submitted.

DC surge arrester shall be provided at DC side and it shall be of type II(as per IEC 61643-I, IEC 62548/ 2016) rated at continuous operating voltage of at least 125% of open circuit voltage of PV string and a flash current of more than 5Amps.

PV string connected in parallel shall have matched open circuit voltage within 5% per string to avoid circulation current as per IEC: 62548:2016.

Sizing of cables for PVC sub array shall be chosen as per IEC: 62548: 2016 and its amendments.

The module frame shall be made of corrosion resistant materials having anodized aluminium or as per manufacturer standard.

Crystalline high power cells shall be used in the Solar Photovoltaic module. Each Solar module shall consist of 72 Photovoltaic cells redundantly interconnected.

Junction box with cable gland & terminal connection block accepting 2.5mm^2 to 6mm^2 cable would be preferred.

The rated output power of any supplied module shall not vary more than 3-5% from the average power rating.

The fill factor of modules shall not be less than 0.70 (typical).

The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power.

Other general requirement for the PV modules and subsystems shall be of the following:

a) The rated output power of any supplied module shall have a tolerance of ± 3%.

b) The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic mean for all modules and/or for all module strings, as the case may be.
The module shall be provided with a junction box with weather proof lid of sealed type and IP-65rated.

Warranty: The PV Modules must be warranted for output wattage, which should not be less than 90% at the end of 10years and not less than 80% at the end of 25 years. Solar PV module shall be product warrantied for 10 years by the OEM/ authorized channel partner/agent. Also, solar PV Module shall be offered a power output/linear output warranty for 25 years by the OEM as above. The certificate in this regard shall be furnished by the agency from OEM prior to delivery of unit.

SPV Module other features

(a) Each SPV Module to be supplied should have minimum declared output of 330Wp or higher. Number of Modules to be provided shall be worked out accordingly. Test reports of the modules should be submitted.
(b) Stabilized output of the Solar PV Array for the Power Plant should not be less than Calculated Kwp under standard Test Conditions of solar irradiance of 1000W/m^2 at 25 Deg. Celsius, spectrum Air mass: 1.5 at cell temperature of 25 Deg.C
(c) Modules for Power Plant shall be made of poly or mono-crystalline Silicon Solar cells.
(d) Except otherwise specified, the front module surface shall consist of impact resistant, low iron and high transmission glass.
(e) The module frame shall be made of aluminium or corrosion resistant material, which shall be electrically compatible with the structural material used for mounting the modules.

SOLAR PV MODULE (ELECTRICAL FEATURES)

(a) Crystalline high power cells shall be used in the Solar Photovoltaic module. Solar Module shall be laminated using laminating technology using established polymer (EVA) and Tedlar/ Polyester laminate. The solar modules shall have suitable encapsulation and sealing arrangement to protect the silicon cells from the environment. The arrangement and the material of encapsulation shall be compatible with thermal expansion properties of the Silicon cells of the module framing arrangement/ material. The encapsulation arrangement shall ensure complete moisture proofing during life of solar modules.
(b) SPV Module conversion efficiency should be greater than 23%. Module shall be made of high transmissivity glass front surface giving high encapsulation gain.
(c) All materials used shall be having a proven history of reliable and stable operation in external outdoor/indoor applications.
(d) Module rating is considered under standard test conditions, however Solar modules shall be deigned to operate and perform in relative humidity up to 95% (non-condensing) with temperature between-10 Deg C and +85 Deg C and with stand gust up to 150Km/hr from backside of the panel or the Geological data of Sikkim can be followed for the design to meet optimum generation whichever is higher.
(e) Sample modules and production processes employed in the manufacture of the offered module shall be in accordance with the requirement of IEC 61730 with appropriate certificate.
(f) Each PV module used in any solar power project must use a RF identification tag. The following information must be mentioned in the RFID used on each module. This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions.

(1) Name of the manufacturer of PV module.
(2) Name of the manufacturer of Solar cells.
(3) Month and year of the manufacturer (Separately for Solar cell and module)
(4) Country of origin (Separately for Solar cell and module)
(5) I-V curve for the module
(6) Wattage, Im, Vm and fill factor for the module.
(7) Unique Serial No and Model Number of the module.
(8) Date and year of obtaining IEC PV module qualification certificate.
(9) Name of the test lab issuing IEC certificate.

(10) MNRE certificate details.

SOLAR PV MODULE (MECHANICAL FEATURES)

Solar PV module design shall conform to following Mechanical requirement:-

(1) Toughened, low iron content.
(2) High transitivity front glass.
(3) Anodized Aluminum Frame.
(4) Ethyl vinyl Acetate (EVA) encapsulant.
(5) Silicon edge sealant around laminate.
(6) Tedlar/ Polyester tri-laminate back surface.
(7) Weatherproof DC rated MC connections easier and secure, not allowing for any loose Connections, Resistant to water, abrasion, hail impact, humidity & other environment factor for the worst situation at site.

JUNCTION BOXES (JBs):

The junction boxes are to be provided in the PV array for termination of connecting cables. The Junction Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminum /cast aluminum alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The Junction Boxes shall be such that input & output termination can be made through suitable cable glands.

a) Copper bus bars/terminal blocks should be housed in the junction box with suitable termination threads Conforming to IP65 standard and IEC 62208. Hinged door should be used with EPDM rubber gasket to prevent water entry.

b) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / surge arrestors and suitable Reverse Blocking Diodes etc. The Junction Boxes shall have suitable arrangement for monitoring and disconnection for each of the groups**.**

c) A test point for each sub-group for quick fault location shall be provided. It shall have facility for group isolation.

d) The rating of the JB's shall be suitable with adequate safety factor to inter connect the Solar PV array.

PV ARRAY CONFIGURATION

a) The Solar array shall be configured in multiple number of sub- arrays, providing optimum DC power. The bidder shall submit their own design indicating configuration of PCU and respective sub arrays.

b) The PV modules should be mounted on aluminium structures/GI/ MS powder coated of adequate strength and appropriate design, which can withstand load of modules and high wind velocities up to 150 km per hour or as per the geological wind map whichever is stringent. **STADD analysis with vetting of the design by any Govt. Engineering section in substantiation of meeting this condition to be submitted for verification by department.**

c) The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels.

d) The bidder needs to take care of the load bearing capacity of the roof and to arrange suitable structures based on the quality of roof. The total load of the structure (when installed with PV modules) on the terrace/roof should be less than 60 kg/m^2. Suitable civil work for installation of the structure as per schedule of quantities is to be done by the supplier. Civil Structure shouldbe neat & clean, with proper alignment and round in shape with emphasis on proper grouting and there should not be leakage, seepage in roof after installation of plant.

MODULE MOUNTING STRUCTURE

The mounting structure would be designed to sustain wind loading of up to 150Kmph or as per the geological wind map whichever is stringent and shall be protected by using Eco friendly anti corrosion on structure. The entire structure including array will be earthed to an independent pit with redundant paths. Mounting Structures with fixed/adjustable tilt has been proposed. The Hardware shall be made of MS having G.I coating not less than 80 micron or as per manufacturer standard.

a) The structure design shall be appropriate and innovative and must follow the existing structure and profile.

b) Design, drawing with material selected shall be submitted for prior approval of Engineer in- charge. **The design shall consider the structural design and safety of the proposed steel structure being provided for base structure.**

c) The structure shall be designed to allow easy replacement of any PV module.

d) The structure shall be designed for simple mechanical and electrical installation. It shall support SPV module at a given orientation, absorb and transfer the mechanical loads to the roof properly.

e) The array structure shall be so designed that it will occupy minimum space without sacrificing the output from SPV panels at the same time.

f) Nut & bolts supporting structure including module Mounting Structures shall have to be adequately protected from atmosphere and weather prevailing in the area; Nut, bolts should be especially in SS material.

g) The bidder/manufacturer shall specify installation details of the PV modules and the support structures with appropriate diagrams and drawings.

h) The drawings along with detailed design shall be submitted in three sets to the engineer- in- charge for approval before starting the execution of work. The work will be carried out as per designs approved by the Engineer in-charge.

i) Height of solar mounting structure shall be as per BOQ.

Any modification required on the existing structure as part of installation of solar PV panels with required GI channels shall be deemed to be included.

POWER CONDITIONING UNIT (PCU)

Power Conditioning Unit (PCU) is critical equipment in Grid interactive SPV Power Plant. This equipment converts DC power generated by SPV array, into three phase medium voltage AC to be connected to Grid. It also provides necessary protections for Grid Synchronization and Data Logging/Monitoring. The DC energy, thus produced has to be utilized to maximum and supplied to the DC bus for inverting to AC voltage with

the help of Power Conditioning Unit using its MPPT (The efficiency of MPPT shall be of high efficiency & shall be designed to meet the Solar PV Array capacity control) to extract maximum energy from solar array and provides 415V AC, 3- ph 50Hz to synchronize with local grid. Power conditioning unit shall be MNRE approved.

a) The PCU shall have protection features such as, over current, short circuit, over temperature etc.

b) The PCU shall be of very high quality having high efficiency and shall be capable of running in isolated mode.

c) The PCU should be designed to be completely compatible with the SPV array voltage and grid supply voltage.

d) The PCU should be designed for continuous, reliable power supply as per specifications.

e) The PCU shall have internal protection arrangement against any sustained fault.

f) The dimension, weight, foundation details etc. of the PCU shall be clearly indicated in the detailed technical specification submitted by contractor **prior to delivery of the unit.**

g) It should have user friendly LCD/LED display for programming and view on line parameters such as DC power input, DC input voltage, DC current, AC power output, AC voltage and AC current and Power factor etc.

h) The PCU shall have arrangement for adjusting DC input current and should trip against sustainable fault downstream and shall not start till the fault is rectified.

i) The Grid connect PCU shall be sourced from list of acceptable makes, which will incorporate latest technological advances to provide highly reliable and efficient energy conversion from DC to AC. The PCU incorporates a new system design which uses multiple power stacks which work in tandem. The PCU should be Single/ three phase static solid state type power conditioning units/string inverters suitability connected & synchronized to give three phase supply output. Both AC & DC lines shall have suitable fuses/MCBs and contactors to allow safe start up and shut down of the system. Fuses/MCBs used in the DC circuit should be DC rated. The PCU shall have provision for input and output isolation. Each solid-state electronic device shall have to be protected to ensure long life of the inverter as well as smooth functioning of the inverter.

j) PCU / Inverter should be tested from the test centres MNRE / BIS / IEC accredited testing calibration laboratories and shall be MNRE approved.

WIRING

1. All instruments and Panel wiring shall be of heat resisting and self extinguishing type in compliance with IS. Plastic or porcelain cleats of the limited compression type shall be used for holding wiring runs. All wires shall be suitable for bending to meet the terminal studs at right angles. Metal cases of all apparatus mounted on panels shall be separately earthed.

2. The following colour scheme of the wiring shall be used as per IS: 375.

a) AC three phase circuits: No.1 Phase: Red. No.2 Phase: Yellow. No.3 Phase: Blue Neutral Conductor: Black Connection to Earth: Green D.C. circuits: Grey

The cabling for solar PV system shall be UV protected.

CABLE ACCESSORIES

Only terminal cable joints shall be accepted. No cable joints to join two cable ends shall be accepted. Cable terminations shall be made with suitable cable lugs & sockets etc., crimped properly and passed through brass compression type cable glands at the

entry and exit point of the cubicles. The panels" bottoms should be properly sealed to ensure the required ingress protection of IP 42.

The terminal end of cables and wires are to be fitted with good quality numbered ferrules of proper sizes so that the cables can be identified easily.

INTEGRATION OF PV POWER WITH GRID:

- In this case, Power plant is without battery bank (i.e. with string inverter), the existing uni- directional meter of the user shall be installed for gross metering of solar generation while a Bi- directional meter shall be installed for net-metering purpose or conditions pertaining to Net Metering Policy of M/s PSEB Ltd.
- Punjab State Electrical Inspectorate guidelines/norms for interconnecting solar power with Grid and for the grid tied solar PV plant/system shall be complied in full Certification of anti-Islanding protection in the inverter/PCU from the manufacturer of the equipment shall be mandatory.

DATA MONITORING OF POWER PLANT:

i) PCU to log the inverter performance data and transmits the same to the Data logger.
ii) Data logger shall then gather information and monitor the performance of the inverter. It shall also support measurements from the external sensors. The data can be acquired remotely via modem.

LIGHTNING & OVER VOLTAGE PROTECTION

The SPV Power plant should be provided with Lightning and surge voltage protection connected to proper earth electrodes.

The Lightning Conductors shall be made as per applicable Indian Standards and as per Punjab State Electrical Inspectorate norms in order to protect the entire Array Yard/Shed from lightning strike.

The lightning conductor shall be earthed through flats and connected to the Earth electrodes as per applicable Indian Standards with earth pits. Each Lightning Conductor shall be fitted with individual earth pit as per required Standards including accessories, and providing masonry enclosure with cast iron/MS cover plate having locking arrangement, watering pipe, charcoal or coke and salt as per required provisions of IS.

The bidder shall ensure adequate lightning protection to provide acceptable degree of protection as per IS for the array Yard/Shed. If necessary, more numbers of Lightning conductors may be provided.

For each earth pit, necessary test Point shall have to be provided.

EARTHING SYSTEM

a) Each array structure of the SPV shall be grounded properly. The array structure are to be connected to earth pits as per CPWD General Specifications and as per requirements of Punjab State Electrical Inspectorate norms whichever is stringent. Junction boxes shall be connected to the main earthing conductor/ electrode.
b) Earthing system installation shall be in strict accordance with CPWD General Specifications Part-I internal 2023 amended up to date and as per Punjab State

Electrical Inspectorate norms. The size of earthing conductor to solar PV array shall be 1.56 times the maximum short circuit current of the PV array.

c) Necessary test point provision shall be made for bolted isolating joints of each earthing pit for periodic checking of earth resistance.

d) In compliance to Rule 33 and 61 of Indian Electricity Rules, 1956 (as amended up to date) all non- current carrying metal parts shall be earthed with two separate and distinct earth continuity conductors to an efficient earth electrode.

e) Earth resistance of the earth pits shall be tested in presence of the representative of Engineer-in- charge.

AC Distribution Box (ACDB)

i. All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/IS-60947 part I, II and III.

ii. The switches, cabling work, Manual isolation of Inverters/Grid should be undertaken by the bidder as part of the project within quoted rates.

PRIORITY FOR POWER CONSUMPTION:
Regarding the generated power consumption, in case of string inverter, priority need to given for internal consumption first and thereafter any excess power can be exported to grid.

Grid Islanding:

i) In the event of a power failure on the electric grid, it is required that any independent power-
producing inverters attached to the grid turn off in a short period of time. This prevents the DC- to-AC inverters from continuing to feed power into small sections of the grid, known as "islands." Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition, to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.

ii) A manual disconnect pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked, if required, by the utility personnel.

PAINTING & FINISH

i. tal surfaces shall be thoroughly cleaned of rust, scale, oil, grease, dirt etc. Fabricated structures shall be pickled and then rinsed to remove any trace of acid. The under surface shall be made free from all imperfections before undertaking the finishing coat.

ii. After Phosphate treatment, two (2) coats of yellow zinc chromate primer shall be applied followed by two (2) coats of epoxy based synthetic enamelled paint. Thickness of paint shall be not less than 75 micron.

iii. All unpainted steel parts shall be cadmium plated or suitably treated to prevent rust

formation. If these parts are moving elements then they shall be greased.

Payment Terms

Sl. No.	Stage of Work	Solar PV System Equipments and related items
I)	After initial inspection (wherever specified) & delivery at site in good condition on pro- rata basis	**70%**
II)	On completion of installation on pro-rata	**20%**
III)	On commissioning	**5%**
IV	On testing and handing over	**5%**

NOTES :-

1.) In respect of materials for which approved makes are not specified above, then proposed makes shall be decided by the Engineer-in-Charge and as per sample approved before procurement & Installation.

2.) The material shall be procured only from the manufacturers & their authorized dealers & documentary proof for such procurement & supply shall be produced by the contractor. Contractor has to produce original bill/challan to the Eng-in-charge.

Annexure-I

Note: To be furnished on a 'Non-Judicial' stamp paper worth Rs. 200/-

UNDERTAKING FROM MANUFACTURER/AUTHORIZED CHANNEL PARTNER FOR GRID INTERACTIVE SOLAR POWER PLANT/ SOLAR PV PANEL/SOLAR PV INVERTER(PCU)

(To be submitted along with supply of system)

We hereby agree that

1. Solar PV panels supplied by us are offered a warranty of 10 (Ten) years from the date of handing over.*
2. We assure a performance warranty of solar PV panels for a period of 25 (twenty five) years; Peak output capacity will not be less than 90% of the claimed peak output capacity at the end of 10 (ten) years and peak output capacity will not be less than 80% of the claimed peak output capacity at the end of 25 (Twenty five) years. *
3. PCU/ Solar PV inverter supplied by us are offered a warranty for 5 (five) years from the date of handing over. *
4. In case of any defect, discontinuation of model and non-availability of spares, we will replace the unit with equivalent/ high end model during the above period of product warranty.

* If the solar PV module and PCU/inverter are from separate OEMs, separate affidavits may be submitted.

For M/S…..,……

(Authorized signatory of manufacturer

/ dealer of Solar PV plant and /or Solar PV inverter)

Counter signed
Signature of Major contractor

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

ADDITIONAL CONDITIONS AND SPECIFICATIONS FOR CABLE AND CALBE LAYING WORK

1. The work shall in general be carried out as per CPWD General Specifications for Electrical Works, Part – II, 2023 amended up to date.
2. When more than one cables are laid in the same trench, the smallest size of the cable shall be considered as main cable and the higher size cables shall be considered as additional cable laying in the same trench. Measurement of cable laying work shall be taken accordingly.
3. The make of UG cable supplied shall be one from the preferred makes of materials. The MV cables shall have ISI certification mark having valid ISI certification license.
4. A certified copy of the valid BIS license for all sizes and type of UG Cables covered in this work, shall be furnished before offering of inspection of cable. Al the UG cables used in this work shall of any one makes from the list of preferred makes of materials. Cables of different makes, though from list of preferred makes of materials, shall not be used.
5. Inspection & Testing – Contractor must intimate to the Engineer-in-Charge at least 14 days in advance, about the probable dates when the entire lot of UG Cables of all sizes to be used in this work shall be ready at the manufacturer's premises. Engineer-in-charge or his authorized representative shall inspect the UG Cables at the manufacturer's premises and carry out the Acceptance and Routine tests on the ISI marked cables of sizes, (separate for each size) as prescribed in IS-7098 (Part-I) – 1988 as amended up to date and in accordance with the sampling plan prescribed therein.
6. In addition to above, contractor shall arrange to furnish certified copies of all the Type Test Certificates, as prescribed in the relevant IS-7098 (Part-I)-1988 to the Engineer-in-charge, along with the call of Inspection of the UG Cables. The Engineer-in-Charge or his authorized representative shall be given access to the original Type Test for verification in respect of each size of the Cables, under inspection, by the manufacturers.
7. Inspection of the items of supply shall be done by the Inspecting officer, before they are dispatched to place of delivery. On completion of inspection, dispatch instructions accompanied with copies of inspection report shall be issued by the Inspecting Officer /Engineer-In-Charge. Only those materials as passed in inspection by the Inspecting Officer shall be dispatched. Copy of inspection certificate as issued by Inspecting Officer shall be dispatched to site of work.
8. **Place of Inspection / Testing:** Contractor should state the place / factory where the equipment will be put up for inspection. They should also clearly indicate the facilities available for different tests.
9. **Inspecting Officer:** The inspecting officer will be the Engineer-in-charge or any officer authorized by the Engineer-in-charge for the purpose of inspection/test.

10. **Arrangement for Inspection / Testing:** All arrangements required for inspection of materials and testing at factory are to be made by the supplier and nothing extra shall be paid for the same.
11. **Marking of Inspected Materials:** The inspecting officer will get the stickers {marked "INSPECTED"} pasted on all items inspected and an additional sticker marked "TESTED" only on the items tested.
12. I**nspection schedule:** The inspection call should be sent by Fax / Telegram after award of work as per Table of Mile Stone. Inspection call shall be given at least 14days prior to date of inspection proposed.
13. **Packing:** Strictly in accordance with the provisions as per clause 18.1, 18.2 and 18.2.1 in IS-7098 (Part-I) – 1988 as amended up to date.
14. **Delivery Period:** Shortest possible time schedule in delivery is required to be framed /observed, but not later than the specified. The date of actual receipt of materials at site will be considered as the relevant date for this purpose. The delivery schedule shall be as per Table of Mile Stone.
15. **Payment Terms:** The following percentage of contract rates for the various items included in this sub-head of work shall be payable against the stage of work shown herein.

Sl No	***Stage of work***	***Payment***
1	*After initial inspection (wherever specified) and delivery at site in good condition on pro-rata basis*	*70%*
2	*After laying installation and testing*	*25%*
3	*On commissioning completion of successful running in period and taking over of the installation by the department.*	*5%*

16. **Placing Order on UG Cables:** Before placing orders on the manufacturer for supply of the cables, the contractor is required to carefully get assessed the exact requirement of each size of the cable at the site of work and get the same approved form the Engineer-in-charge. Department shall Not Take Back any spare quantity of cable whether in pieces or in sealed drums if procured more than that actually required at site / approved by the Engineer-in charge. Even if advance payment is made for the cable and after erection surplus cables are found, the payment towards surplus cables made if any, shall be adjusted from the next on account bill of the contractor.

17. However, it may be noted that the contractor shall have to arrange extra quantity of the cable, over and above that assessed by the contractor, before start of the work and approved by the Engineer-in-charge, if such additional quantity of the cable is required at site, in order to make the installation as covered in the Reach and Scope of this work, in order to make the installation operational. Such extra quantity shall be paid as per terms of the Agreement.

Clause-18

List of mandatory machinery, tools and plants to be deployed by the contractor at site

1.	**Steel/Aluminium Ladder 1.5 m to 8 m.**	**2 Nos.**
2.	**Chase cutting machines.**	**2 Nos.**
3.	**Electrical wire drawing equipment.**	**2 Set.**
4.	**Torque wrench for nut/bolt/screws.**	**2 Nos.**
5.	**Conduit die set.**	**2 Set.**
6.	**Pipe vice.**	**1 No.**
7.	**Bench vice.**	**1 No.**
8.	**L.T. Meggar 500/1000 volts.**	**1 No.**
9.	**Tong Tester.**	**1 No.**
10.	**Multimeter.**	**1 No.**
11.	**Hydraulically operated & hand operated crimping machine.**	**1 No.**
12.	**Earth tester.**	**1 No.**
13.	**Portable Ordinary drilling machine.**	**2 Nos.**
14.	**Portable Hammer drilling machine.**	**2 Nos.**
15.	**Overhead conduit puller.**	**1 No.**

CPWD

LIST OF APPROVED MAKE OF MATERIALS

Name of Work : **Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.**

Sl.	Details of Materials/ Equipment	Manufacturer's Name
1	Single core FRLS PVC insulated conductor cable,	Polycab / Finolex / RR Kabel/ KEI (ISI Marked)
2	Al. armored XLPE / 1100 volt grade Cables	Polycab /Havells / KEI / RR Kabel of ISI Marked
3	Telephone wire & TV wire	Havells / Polycab / Finolex / legrand
4	LAN Cable	AMP / Actassi / Molex / Legrand
5	Steel Conduit & Accessories	AKG / BEC / RMCON (ISI Marked)
6	Modular Switch, Socket, Telephone Socket, T.V. Socket, LAN Socket, Fan Regulator, 5A Plug, 15A Plug, AC Starter, GI Boxes, AC Motor Starter etc.	Legrand – Myrius / Schneider – Miluz Lara / L&T - Entice/ Crabtree – Athena
7	MCB, MCCB, MCB DB, Isolator, Switchgear etc.	L&T / Siemens / Schneider / Legrand / ABB/ C&S
8	LED Batten fitting, LED Ceiling Fitting, LED Down Lighter, LED Mirror Light, LED Bulkhead etc.	Philips / Crompton / Wipro / Trilux / Jaquar / Havells
9	Wall bracket	Philips / Jaquar / Crompton / Wipro / Havells
10	BLDC Ceiling Fan	Usha / Crompton / Orient / Atomberg / Bajaj / Havells
11	Exhaust Fan	Usha / Crompton / Orient / Havells / Bajaj
12	Wall Fan	Usha / Crompton / Orient / Havells / Bajaj
13	Water Heater	Jaquar / Venus / AO Smith / Havells / Bajaj / RA-COLD
14	LED Street Light, LED Post Top Lantern etc.	Philips / Crompton / Wipro / Jaquar/ Havells
15	Brass batten / PVC angle / batten holder, Call bell	Anchor / Cona / Kinjal / Pricision / Pressfit
16	HDPE pipe (PN6, PE100)	Sudhakar / Supreme / Ajaplus / Prince / Rex
17	G.I pipe	Jindal / Bansal / TATA/ SAIL / Utkarsh
18	Ammeter, voltmeter, multifunction meter etc.	L&T / Secure / HPL / AE / Schneider
19	Fire Extinguisher CO2 Type/ ABC Type	Life Guard / Getech / Omex / Fire Shield / Ceasfire
20	Cable lugs / glands	Dowells / Wago / Gripwel / Johnsons / Comet / Polycab
21	MS Pipe	Jindal /Tata / SAIL / Bansal / Utkarsh

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

22	LED Signage Luminaire	Bajaj / Goldwyn / GE/ Wipro / Mr. Lite
23	SMC Junction Box	Hensel / Sintex / RMC/ Grasp
24	Hot dip galvanised octagonal steel pole with bracket	Bajaj / Crompton / Surya / Transrail / Subham Poles
25	Sub-station electrical panels i/c VCB Panel, APFC Panel / Others Electrical Panel / Feeder Pillar /Fire Panel(Feeder Pillar drawing is to be got approve from Engineer- In-Charge before manufacture	L&T, Siemens, ABB, C&S, Schneider and their System Houses / Channel Partners, Deepak Electrical Works, Siliguri, Electro Allied Products, Exim India, Tricolite Electrical Industries (Pvt.) Ltd., Control and Switch gears Pvt. Ltd, Pristine Power System, Ghaziabad-201001(UP), Indian Transformers and Electrical Pvt. Ltd., Mahendra Electricals Pvt. Ltd. (Kolkata), Technoman Engineering Solutions (Kolkata) The manufacturers must have CPRI test certificate of appropriate rating not older than 5 years from the date of call of tender.
26	Exit Signs	Bosch/ L&T/ Notifier/ Hochiki/ Cooper/ Prolite/ Autoglow / Microm / Bajaj

Wifi , LAN & IP based EPABX System

1	EPABX System	Siemens/ Cisco/ Al catel/ Coral/ Panasonic/ Avaya/ Matrix/ NEC
2	Master console phone	Siemens/ Cisco/ Al catel/ Coral/ Panasonic/ Avaya/ Matrix/ NEC
3	Telephone instrument	Siemens/ Cisco/ Al catel/ Coral/ Panasonic/ Avaya/ Matrix/ NEC
4	CORE SWITCH L3/ DISTRIBUTION SWITCH/ ACCESS SWITCHES 48 / 24/ 8 PORT POE & NON POE	CISCO / JUNIPER/HP/ NETGEAR
5	10 G SFP FIBER MODULE SINGLE MODE	CISCO / JUNIPER/HP/ NETGEAR
6	Wi fi ACCESS POINT	CISCO / JUNIPER/HP/ NETGEAR
7	OPTICAL FIBER CABLE	Legrand /Molex /CommScope /Havells

	ON LINE UPS	
1	10 KVA Online UPS	APC / VERTIV (EMERSON) / POWER ONE SCHNEIDER / ECHSOR/ SOCOMEC/ ABB/ NUMERIC
2	Battery	EXIDE/ HBL/ Amron/ Luminious
3	Battery monitoring System	HBL/ Eagle Eye / Btech/ Canara

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

4	Uninyvin Cable	Finolex/ RR Cable / Lapp Cable / Polycab

For DG SET		
1	Engine	Cummins / Kirloskar / Caterpillar / Perkins / Graves
2	Alternator	Stamford / Kirloskar Green/ Leroy Somer / Jyothi / Crompton
3	AMF panel	Same as the OEM for DG Set
4	Manufacturer of Acoustic enclosure	Same as the OEM for DG Set
5	AMF Relays	Model EC2 of C&S Electric Ltd Or similar models of Deep Sea Electronic/ Bernini / manufacturer's standard
6	M.S. pipes	Tata/ Jindal/Zenith with ISI mark.
7	Anti-Vibrations Mountings	As per recommendation of manufacturers
8	Batteries	As per recommendation of manufacturers
9	Control Cables and other cables	CCI/ Asian/ Universal/ Finolex/ Torrent/ RR Kabel/ Gloster / Havells
10	Power Cable	CCI/ Asian/ Universal/ Finolex/ Torrent/ RR Kabel/ Gloster / Havells
11	SDFU/ Change over switches	Siemens / L &T / Schneider/ HPL / Legrand / C&S / ABB
12	ACB	Siemens / L &T / Schneider / Legrand / C&S / ABB
13	Digital Meters	AE/ Schneider/ L&T / Conzerv/ C&S
14	Current Transformers	Kappa / AE / L&T/ ABB/ siemens/ GE/ MECO / Rishab
15	Capacitors, Contactors, Reactors and other accessories for APFC Panels	L&T / ABB / Siemens / Schneider/ GE

FIRE ALARM & PA SYSTEM		
1	Speaker & Accessories	Bosch/ Philips/ Honeywell/ TSG/ JBL/ Eaton
2	Voice Evacuation System,Detectors, Main control panel, Repeater panel, MCP, (ULlistedonly)	Notifier/ Bosch/ Honeywell/ Ambient/ Siemens/ Tyco
3	Analog Addressable Type Rate of Rise/Fixed Heat Detector with Dual LED (ULlistedonly)	
4	Analog Addressable Type Multimedia Detector with Dual LED (ULlistedonly)	
5	Addressable type fault isolator (ULlistedonly)	Bosch/ Notifier/ Siemens/ System Sensor / Eaton
6	Response Indicators	
7	Intelligent Analog Addressable Type Control/Output Modules (UL listed only)	
8	Intelligent Analog Addressable Type Monitor Modules (UL listed only)	
9	Analog Addressable type Active Repeater Fire Alarm panel with Backlit LCD Display (UL listed only)	
10	Microprocessor based analogue addressable intelligent fire alarm control panel (UL listed only)	
11	Exit Point Directional Sounder with minimum 4 distinct Sound patterns (UL listed only)	
12	Manual Call box (UL listed only)	
13	Addressable Type Loop Powered Hi tone hooter (UL listed only)	
14	Exit Signs	Bosch/ L&T/ Notifier / Hochiki/ Cooper/ Prolite/ Autoglow/ Microm/ Prolite
15	PA system	NOTIFIER/ TYCO/ BOSCH/ HONEYWELL/ AMBIENT/ SIEMENS
16	Fire Survival Cable &Speaker Cable	Batra/ Henlay / Tyco / Havells/ KEI/ Lappkabel/ polycab
17	Amplifiers	NOTIFIER/ TYCO/ BOSCH/ HONEYWELL/ AMBIENT/ SIEMENS
18	Voice Command Key Pad	NOTIFIER/ TYCO/ BOSCH/ HONEYWELL/ AMBIENT/ SIEMENS

FIRE FIGHTING		
1	MS pipe	Tata/ Jindal/ SAIL(ISI MARKED)
2	GI Pipe	Tata/ Jindal/ SAIL(ISI Marked)
3	Forged Steel Fittings/flanges	Johnsons Industries/ VS Forge/ JK Forging/ True forge
4	Forged Steel Fittings and flanges (for welding joints)	VS Forge/ Rohini/ kanwal Forge/ Jhonson/ Trueforge
5	Pipe hangers	Chilli/ Hilti/ GMGR
6	Gunmetal/ Brass Valve (ISI marked) / (Fullway Globe valve/ Non return valve)	Leader/ Advance/ Zoloto/ Kirloskar/ Audco
7	Sluice (ISI marked)	Leader/ Advance/Zoloto/ Kirloskar/ Audco/ Kartar
8	Check Value(ISI marked)	
9	Foot Valve (CastIron/ GunMetal)	
10	Y-Type Strainer	
11	Butterfly valve	
12	Fire Pump/ Terrace Fire Pump	Kirloskar/ KSB/ Grundfos/ Wilo Mather & Platt
13	Electrical Motor	ABB/ Siemens/ Kirloskar/ Grundfos /Crompton/ NGEF
14	Diesel Engine for fire pump	Cummins India/ Ashok Leyland/ KOEL/ Greaves
15	Couplings (Type-Type)	Lovejoy/ Fenner/ Dunlop
16	Anti-Vibration Mounting	Kanwal Industrial Corporation/ Dunlop/ GERB / Resistoflex
17	Pressure Switch (ISI marked)	System Sensor/ Indfoss /Danfoss /Switzer /Honeywell/ Siemens
18	Pressure Guage (ISI marked)	HGuru /Fiebig/ Dwyer
19	Double/ Single Headed Landing Value (ISI marked)	Minimax/ NewAge/ Padmini/ Omex
20	Male Female Fire Hose Coupling (SS304) (ISI marked)	Minimax/ New Age/ Safeguard/ Lifeguard/ Pad mini/ Omex
21	First Aid Hose Drum/ Fire Hose reels/ Shut off Nozzle (Gunmetal/ ABS) (ISI marked)	Minimax/ NewAge/ Safeguard/ Lifeguard/ Padmini/ Omex/ Andex
22	SS304/ Gunmetal Branch Pipe & Nozzle (ISI marked)	Minimax/ New Age/ Lifeguard/ Padmini/ Omex/ Andex
23	Fire man Axe	Minimax / NewAge/ Safeguard

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

24	Water Flow Switch (FM/ UL listed)	System Sensor/ Rapid Control/ Potter/ Switzer
25	Rust preventive polymeric 4mm thick Tape for pipes directly burieding round pipe protection pypkoat (AW4) wrapping (ISI marked)	Pypcoat/ Marphalt/ Rustech/ Safex
26	Level controller & indicator (water) (ISI marked)	Auto Pump/ Cirrus Engineering/ Techtrol
27	Fire brigade inlet connection (ISI marked)	Minimax/ New Age /Safeguard/ Lifeguard/ Padmini/ Omex/
28	Thermoplastic pipe for first aid hose reel (ISI marked)	NewAge/ Safeguard/ Lifeguard/ Padmini/ O mex/
29	Fire Sealent	Promat/ Birla 3M/ Hilti
30	Over load relays	Schneider electric/ Larsen & Toubro/ Siemens/ C&S/ ABB
31	Power/ Aux. Contractor ¾ pole	Schneider electric/ Legrand/ Hager/ L&T/ ABB / Seimens/ C&S/ BCH/ Havells
32	LED Type Indicating lamps/ Push Button	Schneider electric /L&T/ Siemens/ C&S/ ABB
33	LT jointing Kit/ Termination	Raychem/ denson/ capseal/ Safekei/ 3M
34	RRL hose pipe (ISI Marked)	Newage/ Safeguard/ Lifeguard/ Padmini/ Omex
35	Dry Battery	Exide/ Amarraja/ HBL/ Pulse/ Amco
36	Battery Charger	Statcon/ Amarraja/ CDC/ AE/ Expofyn/ Thycon India
37	Epoxy Paint	ICI/ Asian/ Berger/ Nerolac
38	Air release Valve	Rb/ Tbs/ Cimbrio/ Zoloto
39	Analogue/ digital Measuring Instruments Voltmeter/ Ammeter/ Energy Meter/ KW/ PF/ Multi-Function Meter)	AE/ Rishab/ L&T/ C&S/ Conzerve
40	Aluminium/ Copper power Cable/ Control cable (Armoured/ Unarmoured)	Finolex/ RRKable/ KEI/ Havells/ Polycab Cables
41	Cable gland and Lugs	Comet/ Dowells/ Hax brass (Copper Alloy India)/ Jainson/ Action
42	Solenoid Valve/ Spray nozzle	Perker/ HD/ Tyco/ Emersion
43	Sprinkler& Rosette Plates	HD/Tyco/ Omex/ Newage/
44	Sprinkler head/ Water Curtain Nozzle	HD/Tyco/ Omex/ Newage/
45	Steel Flexible Extension	HD/Tyco/ Omex/ Newage/
46	Vibration Eliminator	Resistoflex/ Dwaren/ Kanwal
47	Welding Electrodes	Advani/ ESAB/ L&T

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

48	Deluge Valve	Tyco/ Viking/ HD
49	Cast Iron Valve	Kirloskar/ Kartar/ kalpana/ Joloto/ Audco/ Advance
50	External/ Internal Hydrants	Minimax/ NewAge/ Safeguard/ Lifeguard/ Padmini/ Omex/
51	Alarm control Valve/ Drain valve	TYCO/ Newage/ Omex/ HD/
52	RRL HOSE CABINET	OMEX/ NEWAGE/ PADMINI
53	Fire Extinguisher (with ISI marked)	Cease Fire /Safex/ Minimax/ Agni/ Usha Fire Safety/ Padmini /OMEX / Life Guard

SOLAR PHOTOVOLTAIC SYSTEM		
S.NO	**NAME OF THE PRODUCT**	**MANUFACTURED BY**
1	Manufactures of Solar PV cells and modules	Vikram Solar Pvt Ltd. /TATA Power solar / Adani Solar/ Moserbaer/ Waree Engineers Ltd/ Panasonic / Kirloskar / Manufacturers Approved by Ministry of New & Renewable Energy
2	Power Conditioning Unit (PCU)	SMA / Schneider/ Refusol/ Kaco/ Siemens/ ABB/ Havells/ luminous/ Emerson/ Powerone
3	Data logger/System performance	Kaco / SMA / ABB/ Energy Recommerce/ Electro industries/ Energy Tracking IIC/ Schlumberger
4	Junction Box	Hensel/ Spelsberg/ ABB/ Cooper busman / Cape / Sintex
5	ACDB panel	Local fabrication approved Engineer-in-charge
6	Energy meter/ Net Meter/ Bidirectional Meter	L&T/ Siemens/ Schneider/ Secure/ HPL/ Any Approved Make of TANGEDCO
7	Surge protection	OBO Betterman/ ABB/ Legrand
8	PV module interconnecting Connector	Tyco/ Cooper busman/ MC
9	AC cables and wires	RR Kabel/ Havells / Finolex/ Anchor/ KEI/ Polycab
10	DC cables and wires	Siechem/ LAPP/ TopSolar/ Nexans/ Polycab
11	PVC Conduits and accessories (ISI Marked)	Avon Plast/ Precision/ AKG/ Bajaj plast/ GM
12	GI Pipes	TATA/ JINDAL (HISSAR)/ ZENITH / Bansal / Utkarsh
13	Lightning arrestor	INdelec/ Star/ Erico
14	Indicating Lamps LED type, Push Button	Schneider Electric (MG)/ Larsen & Toubro (ESBEE)/ Siemens/ VaishnoConzerv/ Larsen & Toubro/ Secure
15	CAT 5/6 Cables	Legrand/ Molex/ Finolex/ Commscope/D-Link/ Havells/Panasonic/ Henlay / Digilink/ Belkin/ Belden/ KEI

16	LT Panel / Meter Panel Boards/Outdoor Feeder Pillar / APFC Panels	Panel builder Having CPRI Test Certificates for successfully testing panels with Bus Bar Rating Equivalent to the highest Bus Bar rating stipulated for panels in the BOQ.
17	Moulded Case Circuit Breaker (MCCB)/ MCB	Seimens/ ABB/ L&T/ Schneider/ Legrand/ Hager / C&S
18	Changeover switches	L&T/ ABB/ Schneider/ C&S/ Legrand/ Socomee/ Seimens/ Hager
19	Automatic transfer switch	ABB/ Seimens/ L&T/ Schneider/ Legrand/ Hager
20	Timer switch	Schneider Electric/ Legrand/ Hager/ L&T/ ABB/ Seimens/ C&S
21	Selector switch	Kaycee/ BCH/ L&T Salzer/ Seimens/ Schneider Electric.
22	Potential Transformers /Current Transformers	Automatic Electric /Gilbert & Maxwell / Matrix / Precise / L&T / Kappa / Kalpa / Vyoma Switchgears/ Intrans/ Rishabh
23	Digital/ Analog Ammeter/ Voltmeter/ Multifunctional Meters	AE/ Mecon/ Schneider/ L&T/ HPL/ C&S/ Conserve/ Kaycee/ Crompton Greaves/ Scomec (diris)/ Seimens / RISHAB
24	Indicating Lamps (LED type)	Seimens/ Teknic/ L&T/ BCH/ C&S/ ABB/ Schneider/ Kaycee
25	Push Buttons	Seimens/ Teknic/ L&T/ BCH/ C&S/ ABB/ Schneider/ Kaycee
26	Relays	SEGC/ Crompton/ Seimens/ GE/ ABB/ Schneider/L&T / AREVA
27	HT/ LT Cables (Copper/ Aluminium)	Gloster/ Havells/ Universal/ Finolex/ RPG cables/RR Cable/ Polycab/ CCI
28	Cable glands/ Lugs	Jainsons/ Comet/ Dowells/ Raychem/ Wago / Elmec/ Braco / Grip wel
29	Cable trays (Hot Dip Galvanised)	RMCON/ Profab/ Indiana/ MBM/ Legrand/ BEC
30	DWC Pipe	Gemini/Rex/Duraline

Note : In case make of any equipment or material is not specified in the NIT the decision of Engineer-In-Charge in this regard will be final.

ANNEXURE – X

UNDERTAKING LETTER FROM MANUFACTURERS OF LED FITTINGS

We hereby agree that

a) All the LED fittings supplied by us are guaranteed for five years including drivers from the date of handing over.

b) In case of discontinuation of model and non-availability of spares, we will replace the fittings with equivalent/ high end model in case of manufacturing defect during the warranty period of 5 years.

For M/S ……,

……

(Authorized signatory of manufacturer of LED luminaries)

Counter Signature,

Major contractor

Preference to PPP-M – II Policy (Make in India)

1. The Government has issued public procurement policy (Preference to Make in India) vide Ministry of Commerce and Industry Development of industrial policy and promotion (PPS) vide order No. P-45021/2/2017-PP BE-II dated 28.05.2018, to "Encourage Make in India" and to promote manufacturing and production of Goods and services in India with a view to enhancing income and employment. CPWD has decided to implement this policy.
2. The agency shall submit list of makes of materials proposed to be used on the work from local suppliers (as defined in the above order dated 28.05.2018) along with minimum local content as specified below for approval of the department out of the approved makes kept in the tender.
3. The department will be approving only makes of the materials having a minimum local content of 50% (with up-to-date amendment) for use on this work, out of the preferred makes list.
4. The agency is required to obtain a self-certification from OEM/ Manufacturer for verification of local content along with the makes proposed to be used in the work for approval of the department. The self-certification shall be as mentioned below. **"The item offered meets the minimum local content and shall give details of the location(s) at which the local value addition is made."**
5. **As per the Ministry of Commerce and Industry Development order No. P45021/2/2017-PP BE-II dated 28.05.2018 the minimum local content is 50%.**
6. The minimum local content of 50% (with up-to-date amendment) is considered for the complete item including labour component.
7. The agency shall obtain the certificate for all items except for sundry items.

SCHEDULE OF QUANTITIES (E&M)

Name of Work: **Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.**

Sl No.	Description	Qty	Unit	Rate	Amount	Remarks
	SH-I (Wiring)					
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.					
a)	Group C	276	Points	2101.00	579876.00	1.3.3
2	Wiring for twin control light point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable in surface / recessed steel conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS/HFFR PVC insulated copper conductor single core cable etc as required.	12	Points	2242.00	26904.00	1.4
3	Wiring for light/ power plug with 2X4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed steel conduit along with 1 No. 4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable for loop earthing as required.	800	Mtrs	480.00	384000.00	1.5
4	Wiring for light/ power plug with 4X4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 2 Nos. 4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable for loop earthing as required.	400	Mtrs	724.00	289600.00	1.6
5	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.					
a)	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth	120	Mtrs	370.00	44400.00	1.7.1

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	wire					
b)	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	150	Mtrs	476.00	71400.00	1.7.3
c)	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	80	Mtrs	778.00	62240.00	1.7.5
d)	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	30	Mtrs	1253.00	37590.00	1.7.10
e)	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	25	Mtrs	1760.00	44000.00	1.7.11
6	Supplying and drawing following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.					
a)	3 x 1.5 sq. mm	100	Mtrs	104.00	10400.00	1.17.3
7	Supplying and drawing following pair 0.5 mm dia FRLS/HFFR PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.					
a)	2 Pair	300	Mtrs	39.00	11700.00	1.18.2
8	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	60	Mtrs	54.00	3240.00	1.19
9	Supplying, drawing, Installation, Testing and commissioning of CAT6 UTP LSZH 23AWG Twisted Pair Cable in existing conduit/ on surface, Category 6 Unshielded Twisted Pair, 4 pair should be complied as per UL/ETL verification program for compliance with ANSI/TIA-568.2-D standard. Outer diameter should be in the range of 6.1mm nominal with Operating Temperature Range : -5° to +60°C, Bending Radius :< 4 X Cable Diameter at –5°C ± 1°C and Pulling Force: 11.5Kg etc. complete as required.(For LAN+CCTV)					
a)	1 run of cable	300	Mtrs	60.00	18000.00	39.17.1
b)	2 run of cable	200	Mtrs	96.00	19200.00	39.17.2
c)	3 run of cable	100	Mtrs	131.00	13100.00	39.17.3

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

10	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.					
a)	20 mm	360	Mtrs	254.00	91440.00	1.20.1
b)	25 mm	350	Mtrs	289.00	101150.00	1.20.2
c)	32 mm	100	Mtrs	360.00	36000.00	1.20.3
11	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
a)	Telephone socket outlet	30	Each	168.00	5040.00	1.24.6
b)	LAN socket outlet with shutter	47	Each	800.00	37600.00	MR
c)	TV antenna socket outlet	5	Each	168.00	840.00	1.24.7
d)	3 pin 25A Socket outlet (AC+Geyser Outlet)	28	Each	559.00	15652.00	MR
12	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	40	Each	47.00	1880.00	1.26
13	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.	64	Each	545.00	34880.00	1.31
14	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 A & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	71	Each	659.00	46789.00	1.32
15	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 2 Nos. 3 pin 5/6 amps modular socket outlet and 2 Nos. 5/6 amps modular switch, connection etc. as required.	35	Each	757.00	26495.00	1.56
16	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but	44	Each	402.00	17688.00	1.25

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	excluding modular plate etc. as required.					
17	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc. as required.					
a)	1 or 2 Module (75mmX75mm)	110	Each	354.00	38940.00	1.27.1
18	Supplying and fixing call bell/ buzzer suitable for single phase, 230 V, complete as required.	5	Each	112.00	560.00	1.38
19	Supplying & fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections, painting etc. as required.	1	Each	807.00	807.00	1.57
20	Supplying and fixing 25A motor starter, complete with module G.I. box, front cover plate, including connections, testing etc. complete as required. (For AC)	27	Each	1373.00	37071.00	MR
	SH-I (TOTAL of DSR'2025 (E&M))				**2018159.00**	
	SH-I (TOTAL of Market Rate)				**90323.00**	
	Grand Total of SH-I				**2108482.00**	
	SH-II (MCCB, MCB , DB'S)					
21	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB /RCCB /Isolator)					
a)	16 way, Double door	7	Each	3367.00	23569.00	2.3.4
22	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/ Isolator)					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

a)	6 way (4 + 18), Double door	4	Each	5299.00	21196.00	2.4.2
b)	8 way (4 + 24), Double door	3	Each	6337.00	19011.00	2.4.3
23	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 volts, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's (but without MCB's and incomer) as required . (Note: Vertical type MCB TPDB is normally used where 3 phase outlets are required.)					
a)	4 way (4 + 12), Double door	1	Each	7951.00	7951.00	2.5.1
24	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
a)	Single Pole	160	Each	285.00	45600.00	2.10.1
25	Supplying and fixing following rating, 240/415 V, 10kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
a)	63 Amp TP MCB C Curve 10KA	6	Each	3048.00	18288.00	MR
26	Supplying and fixing following rating, double pole, 240 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
a)	40 amps	7	Each	472.00	3304.00	2.12.1
27	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
a)	63 amps	4	Each	1115.00	4460.00	2.13.2
b)	100 amps	3	Each	1317.00	3951.00	2.13.3
28	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in					

	cubicle panel, making connections, Ics=100% Icu and Operational Voltage 690V etc. as required.					
a)	160 A,25 KA, FPMCCB	1	Each	19400.00	19400.00	MR
29	Supplying and fixing Cable End Box (Loose wire box)(IP 43) suitable for following single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with testing and commissioning etc. as required.					
a)	For 14 way, Double door SPN MCBDB	7	Each	990.00	6930.00	2.23.4
30	Supplying and fixing Cable End Box (Loose wire box)(IP 43) suitable for following triple pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with testing and commissioning etc. as required.					
a)	6 way, Double door	4	Each	1223.00	4892.00	2.24.2
b)	8 way, Double door	3	Each	1448.00	4344.00	2.24.3
31	Supplying and fixing Cable End Box (Loose wire box) suitable for triple pole and neutral, sheet steel, Vertical MCB distribution board, 415 V, on surface/ recess, complete with testing and commissioning etc. as required.	1	Each	1271.00	1271.00	2.25
32	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	20	Each	14.00	280.00	2.11
	SH-II (TOTAL of DSR'2025 (E&M))				**146759.00**	
	SH-II (TOTAL of Market Rate)				**37688.00**	
	Grand Total of SH-II				**184447.00**	
	SH-III (Fittings & Accessories)					
33	**LED Down lighter (SMD Type) (System lumen efficacy ≥ 105 < 120 lm/Watt)**					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	Supplying, installation, Testing & Commissioning of LED Recessed/ surface Down lighter (Round/ square/ Rectangular) SMD type of following body material with PMMA and prismatic diffuser and construction as per IS: 10322 with driver as per the requirement with Driver efficiency >85%, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -5 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection, THD < 10% , P. F.≥0.95, IP20, CRI ≥80 , UGR (Unified Glare Rating) < 19, Flicker free (flicker should be below 5%), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends , CCT 3000°K / 4000°K / 5700°K / 6500°K (As per ANSI Bin),					
	SDCM (Standard Deviation Colour Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be confirming to relevant BIS standards and trade mark certificate (T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing Complete in all respect i/c external connections with 1.5 sq. mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 <120 lm/Watt output. LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).					
	Powder coated die cast/ Extruded aluminium Body including trim					
a)	5-7 watt	39	Each	542.00	21138.00	8.1.1
b)	12 -15 watt	64	Each	715.00	45760.00	8.1.3

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

34	**LED Panel light 2x2 ft. (System lumen efficacy ≥105 <120 lm/Watt)**					
	Supplying, installation, Testing & Commissioning of Panel light 2x2 ft., of following body material and construction as per IS: 10322 with driver as per the requirement with Driver efficiency >85%, Operating voltage AC 140-270 Volt, freq 50/60 hz, Operating temp range -5 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection, THD < 10% , P. F.≥0.95, IP20, CRI ≥80, UGR (Unified Glare Rating) < 19, Flicker free, (flicker should be below 5 %), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with, 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K/ 5700°K /6500°K (As per ANSI Bin),					
	SDCM (Standard Deviation Colour Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard and trade mark certificate (T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing complete in all respect i/c external connections with 1.5 sq. mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 <120 lm/Watt output. LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).					
	Powder Coated CRCA Sheet Body (Thickness > 0.50 mm)					
a)	36 watt	90	Each	2059.00	185310.00	8.6.10

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

35	**LED Batten light (System lumen efficacy ≥105 <120 lm/Watt)**					
	Supplying, installation, Testing & Commissioning of LED surface mounted Batten light of following body material and construction as per IS: 10322 with driver (Replaceable) as per the requirement with Driver efficiency >85% ,Operating voltage AC 140-270 Volt, freq 50/60 hz, Operating temp range -5 deg to 40 deg centigrade, internal surge protection of 2.5 KV with Short & Open circuit protection, THD < 10% , P. F.≥0.95, IP20, CRI ≥80, Flicker free, (flicker should be below 5 %), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with, 70% of initial Lumen maintained till life ends, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin),					
	SDCM (Standard Deviation Colour Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard and trade mark certificate (T.C.). Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing complete in all respect i/c external connections with 1.5 sq. mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 <120 lm/Watt output. LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).					
	Powder Coated CRCA Sheet Body (Thickness >0.50 mm)					
a)	18-22 watt	3	Each	629.00	1887.00	8.9.5

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

36	Supplying and fixing of LED mirror light Luminaries complete with all accessories i/c lamp suitable for 1x5 watt directly on wall i/c connection with 1.5 sq. mm FRLS/HFFR PVC insulated, copper conductor, single core cable including earthing etc. as required.	11	Each	527.00	5797.00	MR
37	Supply, Installation, Testing and Commissioning of Surface mounted not more than 10 W LED bulk head fitting with efficacy not less than 100 lumens / watt, Minimum 1000 lumens output. CRI>80 and CCT= 5700-6500K with inbuilt Electronic Driver, THD should be less than 10% and IP-65/66 rated with suitable Aluminium dia cast/CRCA housing & polycarbonate diffuser and making connection with 1.5 sqmm. FRLS/HFFR Copper conductor single core cable i/c earthing etc. as required.	5	Each	935.00	4675.00	MR
38	Supplying and fixing of single head wall mounted decorative bracket light fittings suitable for operation on 240 Volt 50 Hz Single phase AC supply complete with B-22 lamp holder opal class with chrome finish with LED lamp of 4/5 Watt ,connection with 1.5 sq.mm FRLS/HFFR PVC insulated single core copper conductor including earthing testing commissioning etc. as required.	10	Each	1448.00	14480.00	MR
39	**Brush Less Direct Current (BLDC) Fan without Remote**					
	Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal (Aluminum alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al body Power Factor not less than 0.9, Service Value (CM/M/W) minimum as below, 350 RPM (tolerance as per IS : 374-2019), THD (Total Harmonic Distortion) less than 10% suitable for operation with regulator or speed control and all remaining accessories including safety pin, nut bolts, washers, temperature					

	rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC supply Ceiling Fan compliant to IS 374:2019 fan i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required.					
a)	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	44	Each	2695.00	118580.00	9.2.3
40	Supplying, installation, testing and commissioning of following sweep, light duty exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.					
a)	225/230 mm Sweep (PVC Body)	11	Each	2125.00	23375.00	MR
b)	300 mm Sweep (Metal Body)	6	Each	2457.00	14742.00	MR
41	Supplying and fixing louvers/ shutters complete with frame for exhaust fan of following dia/ sweep made of 1 mm thick MS sheet for casing and 0.8 mm thick MS/ aluminium louvers etc. as required.					
a)	225/230 mm dia	11	Each	263.00	2893.00	MR
b)	300 mm dia	6	Each	305.00	1830.00	MR
	SH-III (TOTAL of DSR'2025 (E&M))				**372675.00**	
	SH-III (TOTAL of Market Rate)				**67792.00**	
	Grand Total of SH-III				**440467.00**	
	SH-IV (Compound Light)					
42	Supplying and fixing of LED post top lantern comprises of dia cast aluminium and clear acrylic cover having system lumen not less than 90 lumen per watt and system wattage not less than 40 watt, IP65 protection, integral constant arment electronic driver and lens, colour temperature 3000K-5700 K with THD<10% & PF≥0.95 etc. with all accessories	10	Each	12090.00	120900.00	MR

	complete etc. with 5 years OEM warranty with LM 79 & LM 80 test certificate as required.					
43	Supplying and erection of 65 mm dia 3 mtr long GI pole (medium class, ISI Mark) complete with 300 mm x300 mm x 5 mm thick MS base plate duly welded, and 1 no.GI reducer 65 mm /40 mm suitable for mounting of LED post top lantern i/c necessary holes for cable entry and earth stud for earthing, painting with synthetic enamel paint of approved shade, in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 Graded stone aggregated of 40 mm nominal size) i/c 1 nos. 40 mm GI Pipe for cable entry in foundation complete with excavation & refilling etc. as required.	8	Each	7400.00	59200.00	MR
44	Supplying and fixing of 7 metre long hot dip galvanised octagonal steel pole with 1.5 metre long single arm bracket made of minimum 3 mm thick sheet having top dia (A/F) 70 mm, bottom dia (A/F) 130 mm, Base plate not less than 200 X 200 mm X 12 mm thick and 4 Nos. foundation bolt complete with 6 mm thick ISI mark bakelite sheet with 1 No. 6 amp. SP MCB, C-Curve 10 KA and 16 Sq.mm stud type connection including erection the pole on the existing R.C.C foundation etc. as required.	12	Each	20408.00	244896.00	MR
45	Erection of metallic pole of following length in cement concrete 1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required.					
(a)	Above 6.5 metre and upto 8.0 metre	12	Each	7178.00	86136.00	12.3.2
46	**LED Street light fixture, powder coated pressure die cast aluminum body (System lumen efficacy ≥105 <120 lm/Watt)**					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	Supplying, installation, Testing & Commissioning of Street light LED fixture powder coated pressure die cast aluminium body with driver as per the requirement with Driver efficiency >85%, Input voltage: 140-270 Volt AC, freq 50/60 hz, Operating temp range -5 deg to 50 deg centigrade, internal surge protection of 5 KV L,N,E as per IEC 61000-4-5, Driver efficiency >85%, THD < 10% as per IEC 61000-3-2, P. F.≥0.95, IP-66, IK-10, CRI ≥70, under voltage and over voltage protection, EMI-EMC As per CISPR -15, lenses for beam angle as per IESNA type I/II/III as per the width of the road and the project requirement., suitable to fit in up to 65mm dia pipe,					
	life time (LED, Driver & electrical circuitry) of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM- 21-11 report, CCT 3000°K/ 4000°K/ 5700°K/ 6500°K (As per ANS Bin), SDCM (Standard Deviation Colour Matching) <5, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard complete in all respect i/c external connections with 1.5 sq. mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 <120 lm/Watt output. LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement.					
	(Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).					
a)	72 watt	12	Each	1920.00	23040.00	8.12.13

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

47	Supplying and fixing of outdoor cable terminal box made out of thermoplastic and having size of 155 mm x 210 mm x 92 mm deep, ingress protection IP 66 with metric knock outs for cable entry and comprising of 1 No. 4 pole epoxy cast cable terminals block of capacity 20 Amp and one no. 6A, 10 KA, C curve SP MCB including connection, etc. as required.	10	Each	2383.00	23830.00	MR
	SH-IV (TOTAL of DSR'2025 (E&M))				**109176.00**	
	SH-IV (TOTAL of Market Rate)				**448826.00**	
	Grand Total of SH-IV				**558002.00**	
	SH-V (Earthing & Lightning Conductor)					
48	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	8	Each	8351.00	66808.00	5.4
49	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 Meter long etc. with charcoal/ coke and salt as required.	2	Each	15004.00	30008.00	5.6
50	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required.	6	Mtrs	1638.00	9828.00	5.10
51	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	24	Mtrs	755.00	18120.00	5.11
52	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	10	Mtrs	1246.00	12460.00	5.14
53	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	40	Mtrs	287.00	11480.00	5.15

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

54	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	6	Each	609.00	3654.00	6.1
55	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	40	Each	139.00	5560.00	6.3
56	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required. (For horizontal run)	140	Mtrs	148.00	20720.00	6.6
57	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required. (For vertical run)	34	Mtrs	238.00	8092.00	6.7
58	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	4	Each	140.00	560.00	6.10
59	Providing and laying G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required.	10	Mtrs	221.00	2210.00	6.11
	SH-V (TOTAL of DSR'2025 (E&M))				**189500.00**	
	SH-V (TOTAL of Market Rate)					
	Grand Total of SH-V				**189500.00**	
	SH-VI (EPBAX System)					
60	Supplying, installation, testing and Commissioning of IP based voice communication system with 04 Port Voicemail, 04 Port FXS, 04 Port FXO, 1 PRI Trunk lines (30 Channels) Circuit with CLIP Facility, min 100 IP users License with provision for further additions, 100 analog users, 01 Number IP based Operator Console, 100 Party Conference, Speed Dial, Music on Hold, Internal/ External ring difference, Call Barring, Call Pickup, Redundant server in active -Active mode and as per technical specification including supporting accessories etc complete as required. The system should have valid TEC GR approval from DoT.	1	Each	1578920.00	1578920.00	38.1

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

61	Supplying, Installation, Testing & Commissioning of Type 1 IP Phone having 2 VoIP account, 120 x40 DOT matrix screen with backlight, Full HD duplex speaker phone, IPV6, Gigabit Etherent, PoE etc. complete as required.	5	Each	11698.00	58490.00	38.3
62	Supplying, Installation, Testing & Commissioning of Analog phones having standard feautres like 16 digit LCD display, 2 way speaker, caller ID and number storage facility etc. complete as required.	25	Each	1544.00	38600.00	38.4
63	Supplying and drawing 20 Pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC Conduit etc. complete as required.	30	Mtrs	344.00	10320.00	38.5
	SH-VI (TOTAL of DSR'2025 (E&M))				**1686330.00**	
	SH-VI (TOTAL of Market Rate)					
	Grand Total of SH-VI				**1686330.00**	
	SH-VII (LAN/WiFi System)					
64	Supplying, installation, Testing and commissioning of following capacity 24 port Layer 2 indoor Network Switch having features and specifications etc. as mentioned here under: At least 24 X RJ-45 Gigabit Ethernet Ports and additional 2 X 10G Base -T with 4 X SFP Ports with non-blocking architecture by having Switching capacity of min. 128Gbps and packet forwarding rate of 95Mpps or higher, 16K MAC table. Console Port, USB port, Stacking support of min. 4 units per stack. Internal dual AC Power supply, STP, RSTP, MSTP, BPDU Filter, BPDU Restriction, Min. 9K Jumbo Frame, LBD, IGMP Snooping V1/V2/V3, MLD Snopping V1/V2. IGMP /MLD Groups 1K or more, IPv4/IPv6 Loopback Interface, 16 L3 IP Interface, Ipv6 ND, VRRPv3, UDP Helper,					

	ECMP. VLAN: 802.1Q, Port based, Q-in-Q, Multicast VLAN, Protocol VLAN, VLAN Trunking, DHCP Snopping, Server, server Screening. RADIUS, TACACS+ Authentication, QoS: 802.1P, 8 queues per port, QoS: WRR, Strict +WRR, WRED, 802.1p. ACL: MAC based, IPv4C IPv6, TCP/UDP Port number, time based ACL, TFTP Client, SNMP V1, v2c, v3, SNMP traps, RMON, DHCP server, relay, client, LLDP, LLDP-MED, OAM, Dying Gasp, 802.3ah, sflow, RIP, OSPF v2/v3, policy based route, SSL, SSH. 6 kV surge protection on all Gigabit Ethernet ports and on all GE RJ-45 access ports. Certifications: FCC, CE marked, UL/EN, RoHS, and relevent MTCTE (TEC)/BIS compliance/ certificate as applicable, etc. complete as required.					
a)	24 port PoE Layer 2 Network Switch with PoE Support of 370W or higher with each cooper port supporting 802.3at PoE+ min.	3	Each	125393.00	376179.00	39.3.1
65	Supplying, Installation, Testing and commissioning of small form-Pluggable (SFP) for Network Switches. Must be hot Pluggable, RoHS Complaint, etc. complete as required.					
a)	10 G SFP + Single Mode/Multi Mode	6	Each	14972.00	89832.00	39.6.3
66	Supplying, Installation, Testing and commissioning of indoor Wireless Access Point for High density use having features and specifications etc. as mentioned here under- WiFi6 802.11ax 574Mbps (2.4GHz) + 2402Mbps (5GHz), IFI 6 Certified/Wi-Fi Alliance, MG 2.5G LAN POE Port, having console management function, factory reset, WPA/WPA2/WPA3™ Personal/Enterprise, WEP 64/128-bit, SSID broadcast disable, MAC address. access control, Internal RADIUS server, SNMP, Customizable Captive Portal, Auto Channel, Works as Access Point, WDS with AP/ Wireless Client/MESH, Web (HTTP), Secure Socket Layer (SSL), Traffic control,					

	Support ATF/Fast Roaming/Band Steering, Supports enhanced security – WPA-PSK/WPA2 PSK/WPA3-PSK and RADIUS client, and Cipher negotiation, and MAC/ IP ACL for networks, Certifications: FCC, CE marked, UL/EN, RoHS and relevant MTCTE (TEC)/BIS compliance/certification as applicable. Works as Standalone, Compatible with S/W & H/W. Controller with additional features like - Real-Time Monitoring and Alerts, Rich Advanced Features, Centralized Device Management, Role-Based Administration, Real-Time Monitoring, VLAN and Access Control, Auto RF Management and Bandwidth Optimization, Multi-SSID and Captive Portal Authentication, etc. complete as required.	6	Each	35559.00	213354.00	39.8
67	Supplying, Installation, Testing and commissioning of following CAT6 Patch Cord should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D etc. complete as required.					
a)	Copper Patch Cords of length 1m (3ft)	119	Each	151.00	17969.00	39.12.1
68	Supplying Installation Testing and Commissioning of 24 port Cat6 Patch Panel loaded. Must be of 1U height with clear label holders and white label with the panel. 24 Ports Cat-6 Patch Panel should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D etc. complete as required.	3	Each	5278.00	15834.00	39.11
69	Supplying, Installation, Testing and commissioning of CAT6 Copper Information Outlet (IO) with face plate of color as per site requirement, should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D. All copper Cable and Components should be from same OEM to maintain compatibility and interoperability etc. complete as required.	47	Each	212.00	9964.00	39.14

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

70	Supplying, Installation, Testing and commissioning of RJ45 Connector for CAT 6/6A Cables. RJ45 modular plug supports 4 twisted pairs, 8 positions, 8 connectors. Housing: PC, UL94V-2, transparent color, Use for 24- 26 AWG stranded wires etc. complete as required.	238	Each	9.00	2142.00	39.16
71	Supplying and drawing following core Fiber Optic Cable having corrugated steel armoring. The Fiber should be SM Fiber Central -loose tube filled with Thixotropic jelly, duly following Standards: ISO 11801, IEC 60793-1/60794-1-2, ITU-T-REC G.652D and Telecordia GR-20-core, High quality Electro Chromium Coated Corrugated Steel tape (ECCS) and HDPE- Sheath, Operating ambient Temperature should be – 5 0C to +50 0C and Storage Temperature shall be – 5 0C to +50 0C, Max Attenuation ± 0.36 (db/ km) at Operational Wavelength 1310 nm and ± 0.22 db / km at Operational Wavelength 1550 nm. type of fiber should be 9/125 / G.652D & Refractive Index should be 1.4670/1.4675. The value for Mode-filed, Cladding Diameter 9.2 ± 0.4 µm and 125 ± 0.7 µm correspondingly. The Dispersion value < 3.5 < 18 ps/nm-km and PMD value < 0.2 ps/km and Cable Cut off wavelength < 1260 nm i/c splicing & marking etc. complete as required.					
a)	Single Mode 6 Core Optical fiber cable	60	Mtrs	64.00	3840.00	39.19.1
72	Supplying and fixing 24U Rack with 4 inch Castor wheels and front brake Floor Standing Rack with Main Frame Pillar of 1.25mm Powder Coated CRCA Sheet with removable side panels, L-Shape adjustable Vertical Mounting Rail of 2mm with 'U'Marking completely knocked-down condition (CKD) Shape, fitted with 4 number cooling fans, minimum 5nos two line cable entry/exit provision at top and bottom with rubber protection, Front door 5mm Toughened Glass with MS frame or MS perforated with lock, Rear	1	Each	21201.00	21201.00	39.24

	MS vented or perforated door, Powder coated Color- RAL- 7035 or black, complied with UL & RoHS, 2 x 6 sockets 16A power distribution units, 3 numbers closed cable organizer, Hardware mounting screws packet of 20 x 1 number, etc. complete as required.					
	SH-VII (TOTAL of DSR'2025 (E&M))				**750315.00**	
	SH-VII (TOTAL of Market Rate)					
	Grand Total of SH-VII				**750315.00**	
	SH-VIII (UPS)					
73	**Online UPS- Input supply: Three Phase, Output supply: Three Phase.**					
	Supplying, installation, Testing & Commissioning of following capacity at full load (Unity Power Factor) at operating temperature 0 to 40 0C, Relative humidity 0 to 95%, Online double conversion true sine wave Uninterrupted hot swappable (allow for the replacement or addition of battery modules without shutting down the entire system) modular Power Supply (UPS) system with N+1 modules (N denotes total number of modules required for rated capacity). The UPS shall include a Rectifier, inverter, battery bank suitable for 30 minutes back up (Battery VAH capacity shall not be less than 1600 VAH per KVA of UPS rating per Hour backup time) on full load (Battery shall be VRLA, SMF in ABS Container) and Static Bypass switch along with manual bypass, suitable isolation transformer for additional protection against neutral faults etc. UPS shall have inbuilt phase sequence correction. The UPS systems offered are to be of the latest technology with Digital Control Microprocessor based for					

	Reliable operation using Insulated Gate Bipolar Transistor (IGBT)'s both for the rectifier & inverter (3 Level) with PWM (Pulse Width Modulation). The quality of design, manufacturing and inspection process should confirm to the relevant Inter-national standards such as IEC/EN/VDE. The operating efficiency of the UPS systems shall be >96% while operating on battery mode and delivering quality power to the 100% non-linear loads. Current total harmonic effect (ITHD) on the input grid shall be < 5% at 50 %load. (The required LC (inductor (L) and a capacitor (C)) filters shall be included in UPS cost), extreme power factor kit to be included to limit the input power factor (PF) to 0.99 and output power factor shall be unity (i.e. kw rating of the UPS shall be kva rating x 1), however UPS shall be suitable to take load at 0.7 laging to 0.7 leading power factor loads. UPS shall be suitable for incoming supply AC: 3Phase 400V +/- 20%, 50 Hz +/-5 Hz, AC Output voltage: 3Phase 415 Volt, 50 Hz +/- 0.2Hz, Overload capacity of 120% for 10 mins, Sine wave output. Non condensing, noise level less than 60db at 1 meter distance, protections: Input Under voltage over voltage, abnormal out voltage, battery over charging, output over current, short circuit protection,					
	Battery deep discharge protection, 10KV surge. UPS must comply with low voltage electromagnetic compatibility (EMC) achieved as per EN 6204, EN6204 Part I and Part 2, it shall be a Voltage and Frequency Independent (VFI)-type UPS. . Communication RS232/RS485/SNMP port open protocol for BMS integration, all hardware & software for iOT Communication as per approved by Engineering in charge. Required battery racks and interconnecting copper conductor cables of suitable size and connectors and all required accessories are inclusive of the cost).					

	This system must provide a means for logging and alarming of all monitored points plus email notification. Forced air-cooling with integral inbuilt fans with redundancy (if one fan fail UPS should be able to handle at least 80% of the load, Noise Level 65 DB at 1 meter distance.					
	The system shall be in compliance IEC 62040- 1, 2 & 3, IS: 16242 and CPWD Specification. Display Panel (minimum) (In-build 5 inch or more LC Display / LED) to display: a) Input: Voltage, current, Frequency. b) Bypass: Voltage, Frequency. c) Output: Voltage, frequency, Current.					
	d) Battery: Voltage, Capacity. e) Load: KVA, KW, Percentage. f) Temperature: STS, Inverter, PFC. g) Event Logging & Statistical Data (On LCD/LED): UPS should capture and display up to 3000 events like: Over temperature / DC Bus Fail / Fan Fail / Fuse Fail / Overload / Short-circuit / Device Fail / Inverter Fail / Rectifier Fail / Bypass Fail, etc. h) Statistical Data: No. of power failures / Transfers to Bypass / Total Running time, etc. i) Mains Mode of Operation /Battery Mode of Operation / Bypass feeding the load / UPS Fault /Battery charging and discharging, overload, battery voltage and battery capacity. j) Audible Alarms : Mains Failure, Battery Low Alarm, UPS Overload, Fault, Shutdown, Input Over, Under Voltage, Output Over, Under Voltage, Battery Over, Under Voltage, Over Load and short circuit, Over Temperature. The UPS should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location etc.					
a)	10 KVA (Each Power module shall be ≤ 10 KVA)	1	Each	208893.00	208893.00	26.2.1

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	SH-VIII (TOTAL of DSR'2025 (E&M))				**208893.00**	
	SH-VIII (TOTAL of Market Rate)					
	Grand Total of SH-VIII				**208893.00**	
	SH-IX (DG SET)					
74	Supply, installation, Testing & Commissioning of 'Silent Type Diesel Generating set as per CPCB IV + or better norms along with having Prime Power Rating of KVA as below, 415 volts at1500 RPM, 0.8 lagging power factor at 415 V suitable for 50 Hz, 3 phase system & for 0.85 Load Factor, including testing at factory and site with fuel, load for test and other necessary arrangements Complete as per CPWD specifications, should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location, rating plate as per relevant IS Code etc. and consisting of the followings:					
	(A) Diesel Engine: Tourbo charged Diesel engine 4 stroke water cooled, multi cylinder, dynamically balanced fly wheel, electric start of suitable BHP at 1500 RPM suitable for above output of alternator at 40Degree C, 50% RH & at 1000 Meter MSL , capable of taking10% over loading for one hour after 12 hours of continuous operation. The engine will be with Electronic governor, Dry type Air filter with service indicator, first filling of engine fuel (after commissioning) lubricating Oil, Coolant and other consumables complete with all the required accessories, the Electronic governor shall be as per ISO 8528.The engine shall comply to the latest CPCB norms (CPCB IV + or better) and Conforming to BS 5514, BS 649, IS 10000, IS 10002, IS 13018 and as per CPWD specifications.					

	(B) Engine mounted Instrument Panel fitted with and having digital dis Plate for following: (i) Start-stop switch with key (ii) Water temperature indication (iii) Lubrication oil pressure indication (iv) Lubrication oil temperature indication (v) Battery charging indication and Voltage indication (vi) RPM indication (vii) Over speed indication (viii) Low lubrication Oil trip indication (ix) Engine Running Hours indication (x) Fuel Level					
	(C) Alternator: Synchronous alternator rated of appropriate KVA, 415 volts at 1500 RPM, 3 phase 50 Hz, AC supply with 0.8 lagging power factor at 40 Degree C, 50% RH & at 1000 Meter MSL. The alternator shall be having Screen Protected Drip Proof (SPDP) enclosure IP23, brushless, continuous duty, dynamically balanced rotor, capable of taking 10% over loading for one hour after 12 hours of continuous operation, self-cooled, self-excited and self-regulated through AVR conforming to IS13364(Part 2)/IS: 4722/BS 2613 suitable for tropical conditions and with class- H insulation.					
	(D) Base Frame & Foundation: Both the engine and alternator shall be mounted on suitable base frame made of MS channel with necessary reinforcement which shall be installed on suitable cement concrete foundation and vibration isolation arrangement as per recommendations of manufacturer.					
	(E) FUEL TANK: Daily service fuel tank of suitable litres capacity as per CPWD Specifications, fabricated out of 3 mm thick M.S. sheet complete with all standard accessories and fuel piping between fuel tank and diesel engine with MS class 'C' pipes of suitable dia. Complete with valves, level indications & accessories as					

	required as per specifications.					
	(F) Exhaust System: Dry exhaust manifold with hospital type exhaust silencer and catalytic convertor.					
	(G) Starting System: 12V/24V DC starting system comprising of starter motors: voltage regulator and arrangement for initial excitation complete with suitable numbers of batteries (180 AH capacity lead acid SMF type) as required as per specifications. The battery shall be housed inside the acoustic enclosure of DG Set.					
	(H) Acoustic and weather proof enclosure with arrangement for fresh air intake for cooling of the engine & alternator, extraction, discharging hot air in to the atmosphere and the temperature rise inside the enclosure, noise level outside enclosure. The acoustic enclosure should be suitable for cable connection/connection through bus-trunking. Such arrangements on acoustic enclosure should be water proof &dust-proof conforming to IP-65 protection. The enclosure shall be as per CPCB IV + or better norms etc. and as per CPWD specifications.					

	(I) AMF Panel: Free standing floor mounted IP 42 automatic mains failure control panel including auto by-pass, suitable for KVA as below for silent type DG set complete with relays, timers, set of CTs for metering & protection and energy analyser to indicate currents, phase and line voltages, frequency, power factor, KWH, Kilo Volt Ampere Reative Hour (KVARH), KVA (Phase & Total), KW & provision for overload, short circuit, restricted earth fault, under frequency, power (aluminium) and control (copper) cabling of suitable size upto 15 meter between AMF panel, LT Panel and DG Set including connection interconnection etc. as required, all complete and inter locking and communication/ Ethernet /RS485/SNMP port open protocol for BMS integration including suitable software, the panel shall be of DG Set OEM make etc.					
	as per approved by Engineering in charge and including the following: 1. Suitable numbers and appropriate capacity 4 pole motorised electrically operated draw out with cradle type 3 position ACB/ MCCB with electronic release for O/C & E/F and shunt trip. 2. Auto/Manual/Test/Off selector switch 3. Protection for under and over voltage phase reversal (2 nos Over voltage relay, 2 Nos. reverse power relay and 2 Nos. under voltage relay). 4. 3 Sets of current transformers 15 P 10 accuracy for protection and 15 VA class-I for metering 5. Energy analyser unit to indicate current, Voltage(L-N & L_L), kW, kVA (Phase & Total), Frequency, KWH, PF. 6. LED Indicating lamps for load on mains and load on set					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	7. Fuse/ MCB for instruments 8. Battery charger, complete with transformer/ rectifier, D.C. voltmeter and ammeter, selector switch for trickle, off and boost and current adjustment. 9. Main supply failure monitor 10. Supply failure timer 11. Restoration timer 12. Control unit with three impulse automatic engine start/stop and failure to start lockout. 13. Impulse counter with locking and reset facility. 14. ON/OFF/Control circuit switch with indicator					
	15. Audio/Video annunciation for (i) High water temperature (ii) Low lubricating oil pressure (iii) Engine over speed (iv) Engine fails to start (v) Full load/maximum load warning 16. Protection for over/under Frequency, Loss of AC sensing, Over Current, Unbalancing load with suitable number of relays and accessories 17. Maintenance notification based on Engine Run Hour & due date.					
	18. Load Management through PLC to achieve auto opening and closing of incomer breakers, bus coupler switching of essential panel, interlocking providing signal to AMF Panel for load status and AMF shall give command to DG Set to auto start / auto stop depending upon load status and requirement etc. and necessary hardware and software required to perform the operation shall be provided by the contractor including all control wiring.					
a)	40 KVA	1	Each	532669.00	532669.00	29.1.3
	SH-IX (TOTAL of DSR'2025 (E&M))				**532669.00**	
	SH-IX (TOTAL of Market Rate)					
	Grand Total of SH-IX				**532669.00**	
	SH-X (Solar PV Power Generation)					
75	**Solar Photovoltaic Power Plant**					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	Supply, Installation, Testing and Commissioning of on-grid Solar Photovoltaic Power Plant conforming to various applicable standards BIS, IEC, MNRE guidelines, the Central Electricity Authority Regulations and CPWD Specifications as amended up to date, consisting of Mono/Poly Crystalline silicon solar cells module, net metering facility, necessary control, protections, earthing, cabling, mounting structure, junction boxes, power conditioning units, Real time online web interfaced Data Monitoring System, Distribution panels, grid connecting arrangement, conduits, pipes, cable trays and other accessories etc. as required.					
	a) High Energy Efficiency Solar Photovoltaic Module of capacity 330 Wp or above, manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 23% at STC with temperature coefficient of Pmax better than -0.30% per degree Celsius. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. Solar Modules shall be designed to operate in relative humidity upto 100% with temperature between -10 Deg C and +85 Deg C. Further, each PV module used in any solar power project must have Radio frequency identification tag with information such as name of manufacturer, month and year of manufacturing, country of origin (separately for Solar cell and module), I-V curve, Unique Serial No and Model No of the module, Wattage, Im, Vm and FF, name of test lab issuing IEC certificate.					

	b) Power Conditioning Unit (PCU) of 350-800 V DC Input voltage range and 415 V AC, three phase, 4 wire, 50Hz +/- 2.5 Hz, output voltage suitable to generate AC with a variation of 10% at nominal voltage. Power with efficiency not less than 97%, total harmonic distortion less than 3% and suitable for ambient temperature from 0 to 50 degree C , Minimum IP-65 for outdoor and Minimum IP 21 for indoor, Built-in meter and data logger, MPPT, switching devices IGBT/MOSFETs and controller Microprocessor /DSP . PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown. The PCU shall be able to withstand unbalanced load conforming to IEC standard with shutdown/standby mode. It must be provided with grid islanding along with manual disconnect pole isolation switch besides automatic disconnection. Minimum protections: Mains Under/ Over Voltage, Over current, Over/Under grid frequency, Over temperature, Surge voltage induced at output due to external source, Short circuit, Lightening, Anti Islanding (for grid synch. Mode) and other protections as per applicable standards. LCD/LED display of minimum parameters: DC input voltage, DC current, AC Voltage and current (all 3 phases, in case of 3 phase), Instantaneous & cumulative AC output power, Daily DC energy produced and other parameters applicable standard. Communication interface RS 485/ RS 232.					

	c) Module mounting structure: The roof top solar plant generation units shall be installed by using supporting Aluminium/Galvanized MS structure (mass of zinc coating shall be as per IS4759) having minimum head room clearance of 2.4 meter above the terrace level / ground level. The mounting structure would be designed to sustain wind load and seismic parameter of the site of installation. All the structure shall be design as per applicable BIS code and the material shall also confirm the applicable BIS Code. Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. The suitable arrangements for maintenance and cleaning shall be provided.					
	d) Real time online web interfaced Data Monitoring System complete with accessories for various parameters such as Solar Irradiance, temperature, AC Output Voltage and current, Output Power, Power factor, DC Input Voltage and Current, Time Active, Time disabled, Time Idle, Power produced and other parameters as per standard practices.					
	e) Array junction box & Main junction box with IP 65 protection and termination arrangement for incoming and outgoing cable along with glands, lugs and other accessories etc. as required. Each junction box shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement with High quality Suitable capacity Metal Oxide Varistors (MOVs) (semiconductor diode with resistant applied voltage)/ surge arrestors and suitable Reverse Blocking Diodes, isolation switches isolate the DC input to Inverter, copper bus bar etc.					
	f) Lightning, surge voltage protection, earthing protection and grid islanding.					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	g) Cables: Connections & Interconnections by required size IR/UV protected XLPE insulated copper conductor 1.1 kV grade armoured power and control cables(ISI Marked) along with supplying & fixing of necessary channel/conduit, GI cable trays, supports, lugs, thimble and other accessories etc. as required.					
	h) DC Distribution Board And AC Distribution Panel Board: IP65, free standing, metal cladded, having copper bus bar, having required protection and control gears, connection interconnection, etc. as required.	19	Kwp	54280.00	1031320.00	17.10
	SH-X (TOTAL of DSR'2025 (E&M))				**1031320.00**	
	SH-X (TOTAL of Market Rate)					
	Grand Total of SH-X				**1031320.00**	
	SH-XI (Safety Equipments & LED Signages)					
76	Supply & Fixing of 4.5 kg CO2 type Fire Extinguisher conforming to IS:15683:2018, charged with CO2 gas (purity 99.7% conforming to IS 15222), Powder coated Internal & External Surface Manganese steel ISI marked as per IS 7285 cylinder body , Wheel type Forged brass release valve ISI Marked as per IS 3224 with Inbuilt safety release device ((Fusible plug and Rupture Disc Type), 1.0 Mtr. Metal wire braided hose having minimum bursting pressure of 140 Kgf/cm2, Horn with metallic thread connection, QR code for Product Traceability, including Fixing on wall with suitable Anchor Fasteners as required of 4.5 Kg capacity. Test Certificates of all the Parameters along with Hydro test & Burst test (For Cylinder Body) Certificate from OEM to be submitted as per instruction of Engineer-in-charge etc. as required.	10	Each	8501.00	85010.00	MR
77	Supply & Fixing of 6 kg Dry Powder Agent (as per IS 4308:2019), ABC type Fire Extinguisher (Stored Pressure type) conforming to IS:15683:2018 , Powder coated Internal & External	10	Each	3102.00	31020.00	MR

	Surface Deep drawn cylinder body of Mild Steel CR2 grade conforming to IS: 513, Squeeze grip Forged brass release valve with Inbuilt safety release device, Diaphragm Type, 0 to 28 bar range pressure gauge, 450 mm long EPDM discharge tube, QR code for Product Traceability including Fixing on wall with suitable Anchor Fasteners as required of 6.00 capacity. Test Certificates of all the Parameters along with Hydro test & Burst test (For Cylinder Body) Certificate from OEM is to be submitted. All as per pre-approved by Engineer in charge.					
78	Providing and fixing of photoluminescence emergency glow signage made out of U-1000 photo luminescent printed on aluminium sheet produce luminization with suitable colour combination (Glow in dark) with high intensity properties covered with U/V stabilized coated having thickness of aluminium sheet 1 mm and suitable for indoor surface glow visibility not less than 6 hrs. total darkness as under-					
a)	Single sided with aluminum Base signage board written in bilingual language etc. as required at site	2808	Sq.inch	23.00	64584.00	MR
	SH-XI (TOTAL of DSR'2025 (E&M))					
	SH-XI (TOTAL of Market Rate)				**180614.00**	
	Grand Total of SH-XI				**180614.00**	
	SH-XII (CCTV System)					
79	Supplying Installation Testing and Commissioning of 5/6MP IP IR Dome Camera having following specifications and features etc :-					
	1) Type of Camera: Dome Camera 2) Image Sensor: 1/2.8" or better progressive Scan CMOS get color image even at night condition 3) Signal System: PAL/NTSC 4) Minimum Illumination: 0.008Lux@ F1.4, AGC ON, 0 lux with IR or better 5) Imaging: 1/3s to 1/30000s Shutter Support, Auto Gain Control, White					

	Balance- Auto, Back Light Compensation, Multi zone Privacy Masking, HLC, Digital Watermarking.					
	6) On Screen Display: Camera should display Camera title, Date & Time in live & recorded video both. 7) Signal to Noise Ratio: > 50 dB 8) Day & Night: True Day & Night High Performance Mechanical IR cut filter with auto switch, IR Source- Inbuilt IR LED's with effective distance upto 50 Mtrs integrated IR 30 Mtrs for colour view in night. 9) Video Compression (Minimum): H.265 or better, Audio:- G.711U/A, G.711Mu, G.726, AAC, G.723					
	10) Wide Dynamic Range: WDR (120dB or more) 11) Digital Noise Reduction: DNR (2D/3D) On/Off 12) Streaming: Triple streaming, configurable 13) Video Streaming & Frame Rates: Triple streaming configurable Main stream: 5/6MP @25/30 fps, Sub streams: D1@25/30 fps or better 14) Image Setting: Rotate Mode, saturation, brightness, contrast, sharpness adjustable through client software or web browser					
	15) Profile Management: User configuration import, export 16) Security: User Authentication, Water Marking 17) Onboard Storage: Camera should support built-in Micro SD/SDHC/SDXC Card slot upto 512 GB. It should be supplied with minimum 128GB memory Card. 18) Recording Management: Format SD, overwrite, storage management, video to NAS device					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	19) Edge Analytics : Tripwire, Intrusion, Motion Detection 20) Alarm Trigger : Motion/tampering detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection 21) Alarm Support: It should have 1/1 Alarm In/ Out Port 22) Audio Support: It should have 1x Built-In Mic and 1/1 Audio In/ Out Port for external Mic. and Speaker (As per site requirement) with G.711U/A/ G.711Mu/ AAC/ G.726 audio compression					
	23) Network Protocol: SFTP, IPv6, IPv4, DNS,RTCP, NTP, RTP, HTTP, HTTPS, SNMP TCP/IP, PPPoE, NFS, UDP, ICMP, SSL, DHCP, SMTP, RTSPS, unicast, 24) System Capability: ONVIF 25) VMS: Camera shall support open source VMS 26) Cyber Security: trusted boot, AES 256-bit Encryption, Configuration encryption, trusted execution, Digest, security logs, , account lockout, video encryption, IP/MAC filtering, HTTPS, trusted upgrade. 27) Ethernet: 1 RJ 45 10/100 Ethernet port					
	28) Power Input: The camera should support simultaneous dual power input—12 VDC (via power adapter) and PoE—to ensure continuous operation in the event of a failure in one power source. 29) Power (802.3af)/ePoE Requirement: 12VDC/24VDC/PoE 30) Enclosure: IP67 weather proof, IK10 40.5.1 40.5.2 31) Operating Condition: Ambient Temperature:- (-) 05°C to 50°C, humidity 95% (max) (non-condensing) 32) IR life: 40000 hours or higher 33) Video Bit rate: 32 KBPS - 8 MBPS or better 34) Standards: BIS with ER, STQC Certified, CE, FCC and RoHS					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

a)	5MP/6MP IP IR 2.7 to 4 mm ~12 to 13.5mm or better Varifocal Motorized lens Dome Camera.	4	Each	26993.00	107972.00	40.5.2
80	Supplying Installation Testing and Commissioning of 5MP/6 MP IP IR Bullet Camera having following specifications, type of lens and features etc :-					
	1) Type of Camera: Bullet Camera 2) Image Sensor: 1/2.8" or better progressive Scan CMOS get color image even at night condition 3) Signal System: PAL/NTSC 4) Minimum Illumination: 0.006Lux@ F1.4, AGC ON, 0 lux with IR or better 5) Imaging: 1/3s to 1/30000s, Auto Gain Control, White Balance- Auto, Back Light Compensation, Multi zone Privacy Masking, HLC, Digital Watermarking. 6) On Screen Display: Camera should display Camera title, Date & Time in live & recorded video both. 7) Signal to Noise Ratio: > 50 dB					
	8) Lens Type & Focus: as given below. 9) Day & Night: True Day & Night High Performance Mechanical IR cut filter with auto switch, IR Source- Inbuilt IR LED's with effective distance upto 50 Mtrs integrated IR and 30 Mtrs for colour view in night. 10) Video Compression (Minimum): H.265 or better, Audio:- G.711U/A, G.711Mu, G.726, AAC, G.723 11) Wide Dynamic Range: WDR (120dB or more) 12) Digital Noise Reduction: DNR (2D/3D) On/Off 13) Streaming: Triple streaming, configurable 14) Video Streaming & Frame Rates: Triple streaming , configurable Main stream: 5MP/6MP @25/30 fps, Sub streams: D1@25/30 fps or better					

	15) Image Setting: Rotate Mode, saturation, brightness, contrast, sharpness adjustable through client software or web browser 16) Profile Management: User configuration import, export 17) Security: User Authentication, Digital Water Marking 18) On board Storage: Camera should support built-in Micro SD/SDHC/SDXC Card slot upto 512 GB. It should be supplied with minimum 128GB memory Card. 19) Recording Management: Format SD, overwrite, storage management, video to NAS device, 20) Edge Analytics: Tripwire, Intrusion, Motion Detection					
	21) Alarm Trigger : Motion/tampering detection; network disconnection detection; IP conflict detection; memory card state detection; memory space detection 22) Alarm Support: It should have 1/1 Alarm In/ Out Port 23) Audio Support: It should have 1x Built-In Mic and 1/1 Audio In/ Out Port for external Mic. and Speaker (As per site requirement) with G.711U/A / G.711Mu/ AAC/ G.726 audio compreesion 24) Network Protocol: SFTP, IPv6, IPv4, DNS,RTCP, NTP, RTP, HTTP, HTTPS, SNMP TCP/IP, PPPoE, NFS, UDP, ICMP, SSL, DHCP, SMTP, RTSPS, unicast, 25) System Capability: ONVIF 26) VMS: Camera shall support open source VMS					
	27) Cyber Security: trusted boot, AES 256-bit Encryption, Configuration encryption, trusted execution, Digest, security logs, account lockout, video encryption, IP/MAC filtering, HTTPS, trusted upgrade. 28) Ethernet: 1 RJ 45 10/100 Ethernet port 29) Power Input: The camera should support simultaneous dual power input—12 VDC (via power adapter) and PoE—to ensure continuous operation in the event of a failure in one power source. 30) Power Requirement: 12VDC/24V					

	DC/PoE (802.3af)/ePoE					
	31) Enclosure: IP67 weather proof, IK10 40.6.1 40.6.2 40.7 32) Operating Condition: Ambient Temperature:- (-)05°C to 50°C, humidity 95% (max) (non-condensing) 33) IR life: 40000 hours or higher 34) Video Bit rate: 32 KBPS - 8 MBPS or better 35) Standards: BIS with ER, STQC Certified, CE, FCC and RoHS					
a)	5MP/6MP IP IR 2.7 to 4 mm ~12 to 13.5mm or better Varifocal Motorized lens outdoor Bullet Camera	8	Each	26993.00	215944.00	40.6.2
81	Supplying Installation Testing and Commissioning of following Channel Network Video Recorder (NVR) with camera licenses to record for all channels having specifications and features etc. as mentioned below :					
	1) Network Video Recorder Embedded/ Installed OS (Linux) along with Camera Licenses to record per NVR and to provide a live view, storage and simultaneously Multi-channel playback of all IP camera or more and must be ONVIF with minimum support of 384 Mbps incoming Bandwidth. 2) NVR should support video compressions: H.265 or better, H.264, MJPEG. 3) Must support 1 channel RCA Input, 2 channel RCA Output for Two-way Talk with G.711U/A, G.711u, PCM, G726 audio compressions.					
	4) Intelligent auto power on when power resumes after power outage. 5) Storage: It should support minimum 8 SATA Slots with 16 TB capacity/ Slot and RAID support of RAID 0/1/5/6/10. (4 SATA (32 Channel) & 8 SATA Slot for 64Channel) 6) Connectivity Interface : 2 Nos. x 10/100/1000 Mbps Ethernet Ports, 1x RS485, 1x RS232, 1x eSATA Port 7) Backup Interface : Its should have 4 Nosx USB port (2x USB3.0, 2xUSB2.0) 8) Video Output Ports: 2x HDMI and 2 VGA					

	9) Alarm Ports: It should have 16/8 Ch In/ Out ports to connect various type of external sensors and output devices like hooter/ Siren etc. 10) Email & SMS Altert options: Option for SMS/ Email Alerts to minimum 5 designated mobile number for power failure, HDD failure, vandalism, tempring, network disconnection and panic 11) Web & Mobile Application: Web, Mobile app (For iPhone, iPad, Android Phone) for alerts and viewing. 12) Protocols: HTTP, HTTPS, TCP/IP, IPv4/IPv6, UDP, DHCP, DNS, SMTP, UPnP, IP Filter, PPPoE, FTP, DDNS, Alarm Server, IP Search, Multicast, Auto Registration, ONVIF (Profile T, Profile S, Profile G), CGI, SDK and OEM Cloud for remote monitoring without any public IP need.					
	13) Standards: CE, FCC, RoHS, BIS Certified 14) Power Supply: Should support AC100-240V, 50/60Hz Power supply. 15) Operating Condition: -5°C to 50°C, humidity 90% (max) (non-condensing) 16) The VMS application shall support all the features & functionalities of the offered cameras. 17) VMS should consist Licenses for all channels to record Cameras with General, motion detection, intelligent, alarm and POS recording modes. VMS should be provided with Camera Licenses, with no dependency of VMS licenses by binding with the MAC address of the cameras to achieve the functionality.					
	18) The NVR OEM shall be responsible for providing a mobile application compatible with both Android and iOS devices, enabling remote monitoring and playback of cameras/NVR footage. 19) The OEM must provide its own DDNS server hosted in India, eliminating the need for a public IP address for remote monitoring over the Internet. 20) Must support Continuous, Alarm, Motion, Instant,					

	Panic Recording Mode 21) It should support Resolution: 32MP; 24MP; 16MP; 12MP; 8MP; 5MP; 4MP; 1080p; 720p; D1; CIF; QCIF 22) When alarm recording is enabled and an event occurs, you can click the alarm icon on monitoring page to view the alert details. The snapshot function is supported on monitoring and playback page					
	23) The Network Video Recorder (NVR) shall be configured to send email whenever a system message is created or an alarm event occurs. The email server shall be a valid SMTP server. Each recipient email address shall be configured to receive any combination of critical, warning, or informational messages or alarm notifications. When an alarm occurs, the email message includes the NVR name, time of alarm and a list of camera that is configured to record upon alarm 24) It should have Web and GUI interface.					
	25) Built-In Artificial Intelligence: NVR should have built-in AI :- - 2 Channel face detection and recognition, - Minimum 4 Channel perimeter protection, - Minimum 8 Channel Smart Motion Detection 26) Face Recognition Database Capacity: It should support total Blacklist and Whitelist capacity of Minimum 20,000 Faces or more with Face Detection speed of 12 face images/sec and facility to add Name, gender, birthday, address, credential type, credential No., countries & regions and state to each face image. 27) Face & Human Attributes Search: Search Pictures/ Video by Gender, age group, glasses, expressions, face mask, beard, Top color, top type, hat, bag, age, gender and umbrella.					
	28) ANPR Capability: It should support ANPR Camera with License plate, plate color, vehicle body, vehicle model,					

	vehicle logo, calling, seatbelt, vehicle registration location etc vehicle attributes. 29) Alarm Notifications based on: Motion detection, video tampering, video loss, scene changing, PIR alarm, Camera external alarm, Face detection, face recognition, perimeter protection (intrusion and tripwire), ANPR, people counting, stereo analysis, crowd distribution, heat map, Disk Full, Storage Error, IP Conflict and abnormal behavior of fan, cybersecurity exception.					
	30) Alarm Notification should be linked with Recording, snapshots, Camera external alarm output, buzzer, logs, presets and email. 31) General AI Based Search: Search Pictures by channel, time, event type, target classification (Fall Detection, People Approach Detection, People No. Exception Detection, People Staying Detection, Violence Detection. 32) Smart playback function: Should support smart search for the selected area in the video and smart playback to improve the playback efficiency 33) VCA (Video Content Analytic): Should support multiple video contented analytics based on camera analytics 34) Analytics by NVR: Perimeter protection and face recognation					
a)	32 Channel Network Video Recorder (NVR) having display split :- Main screen: 1/4/8/9/16/25/32(36), 2nd screen: 1/4/8/9/16	1	Each	64784.00	64784.00	40.11.1
82	Supplying, Installation, Testing and Commissioning following capacity Serveillance grade Hard Disk with upto 256MB/s Transfer Rate, 256 MB Cache, 7200 RPM Disk Speed, 3.5 inch form factor, SATA Interface, BSMI, ICES-003/NNB-003, CE, FCC, KC, Maghreb, RCM, UKCA, VCCI, CB-Scheme, TUV, UL Certifications.					
a)	8 TB (Terabytes)	2	Each	20119.00	40238.00	40.12.3

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

83	LED Display Supplying, Installation, Testing and Commissioning of following size LED display (LED monitor) industrial grade with 3840x2160 resolution or better, USB playback, bluetooth and miracast connectivity, 4X HDMI 2.0, DP 1.2, HDR 10/10+, brightness: 500-nits or better, Video wall mode should be available, contrast ratio: 1200:1, OPS slot, viewing angle (H/V): 170°/ 170°, response time less than 12ms, Display control shall be on monitor screen and programmable with remote (remote shall be supplied with system), Key Board, Optical Mouse, etc. as required.					
a)	55 inch or larger	1	Each	82057.00	82057.00	42.4.3
84	**Online UPS - Input supply: Single Phase, Output Supply: Single Phase.**					
	Supplying, installation, Testing & Commissioning of following capacity at full load (Unity Power Factor) ON LINE Uninterrupted Power Supply (UPS) system suitable for Single Phase input, Single Phase output AC Supply. The UPS shall include a Rectifier, inverter, battery bank suitable for 30 minutes back up (Battery VAH capacity shall not be less than 1600 VAH per KVA of UPS rating per Hour backup time) on full load (Battery shall be VRLA, SMF in ABS Container) and Static Bypass switch along with manual bypass, suitable isolation transformer for additional protection against neutral faults etc. The UPS systems shall be Microprocessor based Digital Control, using isolated Gate Bipolar Transistor (IGBT)'s both for the rectifier & inverter with PWM (Pulse Width Modulation) Technology.					

	The quality of design, manufacturing and inspection process should confirm to the relevant Inter-national standards such as IEC/EN/VDE. The operating efficiency of the UPS systems shall be >95% at 100% non-linear loads. Current total harmonic distortion (ITHD)/ total demand distortion (TDD) on the input grid shall be < 5% at 100 %load. (The required LC filters shall be included in UPS cost), extreme power factor kit to be include to limit the input pf to 0.99 and output power factor shall be unity (i.e. kw rating of the UPS shall be kva rating x 1) however UPS shall be suitable to take load at 0.7 laging to 0.7 leading power factor loads. UPS shall be suitable for incoming supply AC single phase 160-270V 50 Hz and delivering output AC supply true sine wave single phase 220/230/240 Volt, 50 Hz +/- 0.2Hz, Overload capacity of 120% for 10 mins and 150% for 1 minute. Operating temperature 0 to 40 0C, Relative humidity 0-95% non-condensing, noise level less than 60db at 1 meter distance,					
	Protection for Under voltage, over voltage, abnormal output voltage, battery over charging, output over current, short circuit, battery deep discharge , 10 KV surge. Display for watt/VA, Amp and Voltage power ammeters etc. UPS shall comply with low voltage electromagnetic compatibility (EMC) achieved as per EN 6204, EN6204 Part I and Part 2, it shall be a Voltage and Frequency Independent (VFI) type UPS (as per standard IEC 62040-1, 2 & 3) . The UPS should be with IGBT Based Inverter Technology, Communication RS232/ RS485/ SNMP port open protocol for BMS integration as per approved by Engineering in charge. Required battery racks, DC breaker of suitable rating and interconnecting copper conductor cable of suitable size and connectors and all required accessories					

	are inclusive in the cost. The UPS should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location etc.					
a)	2KVA	1	Each	45894.00	45894.00	26.1.1
85	Supplying, installation, Testing and commissioning of following capacity 8 port Layer 2 indoor Network Switch having features and specifications etc. as mentioned here under: Minimum 8 X RJ-45 Gigabit Ethernet Ports and additional 2 X 1G SFP Ports with non-blocking architecture by having Switching capacity of minimum 20Gbps and packet forwarding rate of 14Mpps or higher, 8K MAC table. Internal dual AC Power supply with operating temperature of -5 0C to +50 0C. Jumbo frame: 10KB or higher, IGMP Snooping, IGMP snooping querier and support for IGMP Snooping Fast Leave, Should create 250 or more MLD groups, MLD Snooping, Per VLAN MLD Snooping C MLD Snooping Fast Leave, STP, RSTP, MSTP,					
	Loopback detection, Multicast filtering, VLAN Tagging, QOS: 8 Que per port, WRR, IPv4/IPv6 Interface : minimum 100 IPv4 static route entries and minimum 50 IPv6 static route entries, 700 Acess Control entries, SSH CSSL for IPv4 and IPv6, 802.1x, ARP Spoofing, DHCP Snooping and server screening, IP+MAC+Port Binding, Per Port Bandwidth Control, 802.1X Authentication (Supports local/RADIUS database, Port-based Access Control and EAP, OTP, TLS, TTLS, PEAP Support) Cable Diagnostic					

	feature, LLDP, LLDP-MED, SNTP/NTP, RMON, SNMP v1,v2c, v3 and SNMP Traps. Certifications: UL, CE, FCC, RoHS, MTCTE, OEM/Product must be on Trusted Telecom Portal of Department of Telecommunication, Government of India etc. complete as required.					
a)	8 port PoE Layer 2 Network Switch with PoE Support of 130W or higher with each copper port supporting 802.3at PoE+.	3	Each	35091.00	105273.00	39.1.1
86	Supplying and fixing of following size Wall Mount Rack having Fixed Structure with 0.8mm CRCA Sheet, completely knocked-down condition (CKD) Shape, Vertical Mounting Rail 1.6 mm with 'U'Marking, Minimum 2 cable entry/exit provision at Top and bottom with rubber protection, Front 5mm Toughened Glass with lock, wall mounting kit, Powder coated Color-RAL- 7035, complied with UL & RoHS, 2 x 6 sockets 16A power distribution units, 3 numbers closed cable organizer, Hardware mounting screws packet of 20 x 1 number, etc. complete as required.					
a)	9U Rack	4	Each	8960.00	35840.00	39.23.2
	SH-XII (TOTAL of DSR'2025 (E&M))				**698002.00**	
	SH-XII (TOTAL of Market Rate)					
	Grand Total of SH-XII				**698002.00**	
	SH-XIII (Fire Alarm & PA System)					

87	Supplying, installation, testing and commissioning of micro-processor based intelligent addressable main fire alarm panel, central processing unit with the following loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics/ LCD display with touch screen or other keypad and minimum 4000 events history log in the non-volatile memory (EPROM), power supply unit (230 ± 5% V, 50 hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog/digital voice evacuation system (which is part of the schedule of work under SH: PA System) and shall be complete with all accessories. The panel shall be compatible for IBMS system with open protocol BACnet/ Modbus over IP complete as per specifications.					
a)	Two Loop Panel.	1	Each	250420.00	250420.00	28.2.1.2
88	Supplying, installation, testing & commissioning of repeater panel wih 320 character/ Touch screen LCD display with inbuilt reset, acknowledge and silence switches complete as required.	2	Each	113734.00	227468.00	28.2.3
89	Supplying, installation, testing & commissioning of addressable manual call point complete as required.	6	Each	4063.00	24378.00	28.2.14
90	Supplying, installation, testing & commissioning of intelligent addressable thermal detector with rate of rise cum fixed temperature thermistor complete with base as required.	1	Each	2866.00	2866.00	28.2.9
91	Supplying, installation, testing & commissioning of response indicator on surface/recessed MS Box having two LED, metallic cover complete with all connections etc. as required.	12	Each	306.00	3672.00	28.2.5

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

92	Supplying, installation, testing & commissioning of fault isolator complete with base as required.	5	Each	3434.00	17170.00	28.2.7
93	Supplying, installation, testing & commissioning of intelligent analog addressable photo thermal detector complete with mounting base complete as required	33	Each	3004.00	99132.00	28.2.4
94	Supplying, installation, testing & commissioning of addressable fire control module complete as required.	6	Each	3156.00	18936.00	28.2.10
95	Supplying, installation, testing & commissioning of addressable horn cum strobe complete as required.	6	Each	3682.00	22092.00	28.2.15
96	Supplying & laying of 2x1.5 sqmm fire alarm armoured cable, 600/1000V rated with annealed copper conductor having XLPE insulation, steel wire armouring & FRLS/HFFR outer sheath complete as required.	300	Mtrs	192.00	57600.00	28.5.2
	SH-XIII (TOTAL of DSR'2025 (E&M))				**723734.00**	
	SH-XIII (TOTAL of Market Rate)					
	Grand Total of SH-XIII				**723734.00**	
	SH-XIV (Fire Fighting Down Commer System)					
97	(A) Supplying, installation, testing and commissioning of electric driven terrace pump suitable for automatic operation and consisting of following, complete in all respects, as required: (Terrace Pump) (B) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical confirming to IS: 1520 (C) Suitable HP squirell cage induction motor TEFC type suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply with IP55 class of protection for enclosure, horiziontal foot mounted type with Class-'F' insulation, conforming to IS-325. (D) M.S. fabricated common base plate, coupling, coupling guard, foundation bolts etc. as required. (E) Suitable cement concrete foundation duly plastered and with anti-vibration pads.					
a)	900 Ipm at 35 m Head	1	Set	107744.00	107744.00	27.4.1

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

98	Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required:					
a)	65 mm dia	12	Mtrs	1955.00	23460.00	27.7.5
b)	80 mm dia	18	Mtrs	2277.00	40986.00	27.7.6
c)	100 mm dia	30	Mtrs	3077.00	92310.00	27.7.7
d)	150 mm dia	3	Mtrs	4299.00	12897.00	27.7.8
99	Supplying and fixing single headed internal hydrant valve with instantaneous Gunmetal/Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal/ Stainless Steel cap and chain as required :					
a)	Single headed Gunmetal	3	Each	8208.00	24624.00	27.9.1
100	Supplying and fixing Single headed external yard hydrant valve with 1 No. 63 mm dia instantaneous FM Gunmetal/Stainless Steel coupling and cast iron wheel, ISI marked, conforming to IS 5290 (type A) with blank Gunmetal/Stainless Steel cap and chain as required:					
a)	Single headed Gunmetal	1	Set	8208.00	8208.00	27.10.1
101	Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required.					
a)	65 mm dia	2	Each	4712.00	9424.00	27.11.3
b)	80 mm dia	2	Each	5406.00	10812.00	27.11.4
c)	100 mm dia	2	Each	7271.00	14542.00	27.11.5
102	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm2 complete as required.	4	Each	1436.00	5744.00	27.13

103	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, Gl bolts, nuts, washers etc.as required:					
a)	65 mm dia	2	Each	6913.00	13826.00	27.14.3
b)	80mm dia	2	Each	8255.00	16510.00	27.14.4
c)	100 mm dia	1	Each	11853.00	11853.00	27.14.5
104	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange.					
a)	80 mm dia	1	Each	5117.00	5117.00	27.15.1
105	Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with Gl wire, rivets etc. conforming to IS 636 (type-A) as required:					
a)	Gun Metal	8	Each	5455.00	43640.00	27.16.1
106	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required.20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585 20 mm nominal internal dia gun metal globe valve & nozzle. Drum and brackets for fixing the equipmets on wall. Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket.					
a)	30 m	4	Each	9440.00	37760.00	27.17.1
107	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required:					
a)	Gun Metal	4	Each	4977.00	19908.00	27.18.1
108	Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain					

	as reqd. for suitable dia MS pipe connection conforming to IS 904 as required:					
a)	3 way - 150 mm dia M.S. Pipe	1	Each	10097.00	10097.00	27.19.3
109	Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required.	1	Set	19402.00	19402.00	27.20
110	Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required.	2	Each	1670.00	3340.00	27.22
111	Providing and fixing in position the industrial type pressure gauge complete as required	5	Each	1491.00	7455.00	30.80
112	**Terrace Fire Pump Control Panel**					
	Fabricating, supplying, installation, testing & commissioning of 900 x 900 x 300 mm size (nominal) outdoor IP55 floor mounted, compartmentalized cubicle panel, fabricated from 2 mm thick CRCA sheet with sloped roof and partitions with stiffeners wherever required, dust and vermin proof, powder coated of approved shade after seven tank process, with suitable electrolytic grade high conductivity aluminium bus bar, suitable for operation on 3 phase 415V, 50 Hz AC supply i/c providing and fixing the following switchgear mounted thereon complete with gaskets and interconnections. The board shall be dust free, vermin proof, totally enclosed, free standing type with suitable cable alleys and channel iron base frame at bottom with 75 mm x 40 mm x 4.4 mm ISMC including mounting the panel on floor/ trench complete as required.(Note : Additional start / stop push buttons shall be provided at ground floor for starting the pump manually).					

	Incomming i) 63 Amps. FP MCCB 36 KA TMR based(S/C & O/C) (Ics = 100 % Icu) panel mounting type - 1 No. with spreader link and extended rotary handle ii) 0 - 100 Amps. Digital Ammeter with CTs - 1 Set. iii) 0 - 500 Volts Digital Voltmeter and protection fuses - 1 Set iv) 150 Amps, 4 strip Aluminium bus bars of suitable length - 1 set v) Phase indicating lamps with control,selector switches,auxiliary contacts and protective fuses -- 3 Nos. etc as required.					
	Outgoings i) Terrace pump section comprising of 32 Amp 36 KA (Ics) TPMCCB (Ics = 100 % Icu) panel floor mounting type, 2 Nos. Star Delta starter and timer with OL and UV protection, Current sensing type single phasing preventer, indication lamps, ON/OFF push button, auto manual selector switch, ammeter with selector switch and CT's, necessary inter locks complete suitable for automatic operation etc. as required - 2 sets. (start & stop push button ground floor - 2 sets),ON,OFF,Trip Indicating Lamps with necessary selector switch					
	ii) Control section having control components integrating the terrace pumps so as to satisfy the functional requirements visual / audio alarms, pressure switch for automatic operation, necessary instruments, indicating lamps, push buttons, fuse terminal blocks etc. and other accessories as per specifications - 1 set	1	Job	139977.00	139977.00	M.R
	SH-XIV (TOTAL of DSR'2025 (E&M))				**539659.00**	
	SH-XIV (TOTAL of Market Rate)				**139977.00**	
	Grand Total of SH-XIV				**679636.00**	
	SH-XV (Electrical Panels)					
113	**NON ESSENTIAL PANEL**					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	Supplying, Installation, Testing and Commisioning of floor mounted dust and vermin proof LT power distribution indoor compartmentalised cubical type LT Panel with ingress protection of IP 42 having front and back openable double fold doors provided with neoprene rubber gasket with pad locking arrangement and insulated door handles, 500 mm deep with 4 strip 350 amp. capacity of suitable length aluminium bus bars on SMC / DMC insulators, 3 Nos. LED indicator lamps (R.Y.B) with 3 Nos. toggle switches & 2 Amps capacity SPMCB "C" curve for protection of indicator lamp, the body fabricated from 2 mm thick CRCA sheet (with front and back tapered top / roof fabricated from 3.15 mm thick CRCA sheet), 35 mm X 35 mm X 3 mm MS angle iron frame work all round at the bottom,75 mm X 40 mm X 4.4 mm MS channel as base, 25 mm X 5 mm G.I strip as earth bar at the rare end, suitable accommodation for fixing the following switchgears and accessories, connections interconnections					
	with suitable size of FRLS copper conductor single core cable, Control wiring inside panel for metering and protection etc. with 2.5 Sq.mm FRLS grade PVC insulated copper conductor single core cable and door earthing with 4 Sq.mm FRLS grade PVC insulated copper conductor single core cable and 1 No. M.V danger notice plate of 200 mm X 150 mm made of mild steel, at least 2.00 mm thick and vitreous enamelled white on both sides and inscription in signal red colour on front side, painting with siemens gray powder coated paint to give a smooth surface after cleaning and finishing with 7 or more tank process.					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

	Provision for below mentioned items. (incoming side) a) 250 amp. 36KA 4 pole MCCB TMR Icu=100% Ics with external ground fault protection-1 No. b)Phase Indicator with protection MCB 2A, SP, 10kA-3 Nos. c)CONTROL FUSE BASE 20A WITH 2A WITH BASE-3 Nos. d)Digital Ammeter & Voltmeter (Outgoing side) a) 200 amp.36KA MCCB 4 pole TMR Icu=100% Ics -1 Nos. b) 125 amp. 36KA MCCB 4 pole TMR Icu=100% Ics -2 Nos. c) 63 amp. C curve 4F MCB-1 Nos. d) 40 amp. C curve DP MCB-1 Nos.	1.4	Sqm	61336.00	85870.00	MR
114	**ESSENTIAL PANEL**					
	Supplying, Installation, Testing and Commisioning of floor mounted dust and vermin proof LT power distribution indoor compartmentalised cubical type LT Panel with ingress protection of IP 42 having front and back openable double fold doors provided with neoprene rubber gasket with pad locking arrangement and insulated door handles, 350 mm deep with 4 strip 200 amp. capacity of suitable length aluminium bus bars on SMC / DMC insulators, 3 Nos. LED indicator lamps (R.Y.B) with 3 Nos. toggle switches & 2 Amps capacity SPMCB "C" curve for protection of indicator lamp, the body fabricated from 2 mm thick CRCA sheet (with front and back tapered top / roof fabricated from 3.15 mm thick CRCA sheet), 35 mm X 35 mm X 3 mm MS angle iron frame work all round at the bottom,75 mm X 40 mm X 4.4 mm MS channel as base, 25 mm X 5 mm G.I strip as earth bar at the rare end, suitable accommodation for fixing the following switchgears and accessories, connections interconnections					

	with suitable size of FRLS copper conductor single core cable,Control wiring inside panel for metering and protection etc. with 2.5 Sq.mm FRLS grade PVC insulated copper conductor single core cable and door earthing with 4 Sq.mm FRLS grade PVC insulated copper conductor single core cable and 1 No. M.V danger notice plate of 200 mm X 150 mm made of mild steel, at least 2.00 mm thick and vitreous enamelled white on both sides and inscription in signal red colour on front side, painting with siemens gray powder coated paint to give a smooth surface after cleaning and finishing with 7 or more tank process.					
	Provision for below mentioned items. (Incoming side) a) MCCB 125A, 4 POLE, 36kA TMR Icu=100% Ics with external ground fault protection - 2 No b) 125A Manual Change Over-1 No c) Phase indicator with MCB 2A, SP, 10kA - 3 Nos. c) CONTROL FUSE BASE 20A WITH 2A WITH BASE - 3 Nos. d) Digital Ammeter & Voltmeter (Outgoing side) a) MCCB 100A, 4 POLE, 30kA TMR Icu=100% Ics - 1 Nos. b) MCCB 63A, 4 POLE, 30kA TMR Icu=100% Ics - 2 Nos. b) MCB 32A, 10kA Breaking Capacity, FP -1 Nos. c) DP MCB 40A,10kA Breaking Capacity, -2 Nos. with power contactor and one number of astronomical timer swtich	1.2	Sqm	47681.00	57217.00	MR
115	Providing and fixing following rating and breaking capacity and pole MCCB in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.					
a)	250 Amp, 36KA, FPMCCB	1	Each	18372.00	18372.00	2.2.16
b)	200 Amp, 36KA, FPMCCB	1	Each	15956.00	15956.00	2.2.15
c)	125 Amp, 36KA, FPMCCB	4	Each	8644.00	34576.00	2.2.14
d)	100 Amp, 30KA, FPMCCB	1	Each	8127.00	8127.00	2.2.13
e)	63 Amp, 30KA, FPMCCB	2	Each	7088.00	14176.00	MR

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

116	Providing and fixing following Items in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.					
	INCOMING					
a)	EXTENDED ROTARY HANDLE	10	Each	1853.00	18530.00	MR
b)	EXTERNAL GROUND FAULT PROTECTION -	3	Each	11188.00	33564.00	MR
c)	SHUNT RELEASE	10	Each	2220.00	22200.00	MR
d)	DIGITAL AMP METER 60/5A WITH INBUILT SELECTOR SWITCH	2	Each	1405.00	2810.00	MR
e)	DIGITAL VOLT METER 0-500V WITH INBUILT SELECTOR SWITCH	2	Each	1405.00	2810.00	MR
f)	CT COIL 100/5A, VA 15 CLASS 1	6	Each	342.00	2052.00	MR
g)	LED INDICATION LAMP FOR PHASE [RED - YELLOW - BLUE]	2	Each	420.00	840.00	MR
h)	MCB 2A, SP, 10kA	6	Each	461.00	2766.00	MR
i)	CONTROL FUSE BASE 20A WITH 2A WITH BASE	6	Each	179.00	1074.00	MR
j)	125A 4P manual changeover	1	Each	11017.00	11017.00	MR
	OUTGOING					
k)	MCB 40A, DP, 10kA	3	Each	1503.00	4509.00	MR
l)	MCB 63A, FP, 10kA	1	Each	2823.00	2823.00	MR
m)	Digital time switch with astronomical function (for street light)	2	Each	4616.00	9232.00	MR
n)	40A Power Contactor(for street light)	2	Each	1401.00	2802.00	MR
o)	MCB 32A, FP, 10kA	1	Each	2011.00	2011.00	MR
	SH-XV (TOTAL of DSR'2025 (E&M))				**77031.00**	
	SH-XV (TOTAL of Market Rate)				**276303.00**	
	Grand Total of SH-XV				**353334.00**	
	SH-XVI (Cables & Laying)					
117	Supplying of following sizes P.V.C. / XLPE insulated & P.V.C. sheathed Arrmoured Aluminium cable confirming to IS:1554 P-I / IS :7098 P - I of 1.1 KV with H4-Grade electrolytic aluminium conductor confirming to IS 8130 of purity >99.6 %, round / flat strip armouring of cables, Inner / outer sheath confirming to IS:5831 including testing etc. as required.					
a)	2 x 10 sq.mm Aluminium Armoured Cable	200	Mtrs	247.00	49400.00	MR
b)	3½ X 50 sq. mm sq.mm Aluminium Armoured Cable	30	Mtrs	813.00	24390.00	MR

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

c)	3½ X 70 sq. mm sq.mm Aluminium Armoured Cable	35	Mtrs	1100.00	38500.00	MR
d)	3½ X 95 sq. mm sq.mm Aluminium Armoured Cable	25	Mtrs	1428.00	35700.00	MR
e)	3½ X 120 sq. mm sq.mm Aluminium Armoured Cable	40	Mtrs	1817.00	72680.00	MR
118	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	460	Mtrs	50.00	23000.00	5.18
119	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc., complete as required.					
a)	63 mm dia (OD-63 mm & ID-51 mm nominal)	160	Mtrs	289.00	46240.00	15.16.1
b)	120 mm dia (OD-120 mm & ID-103 mm nominal)	30	Mtrs	417.00	12510.00	15.16.3
c)	160 mm dia (OD-160 mm & ID-135 mm nominal)	35	Mtrs	537.00	18795.00	15.16.4
120	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep)and re-filling etc as required					
a)	100 mm dia	24	Mtrs	1918.00	46032.00	15.13.3
b)	150 mm dia	18	Mtrs	2894.00	52092.00	15.13.4
121	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.					
a)	Upto 35 sq. mm	160	Mtrs	47.00	7520.00	10.5.1
b)	Above 35 sq. mm and upto 95 sq. mm	54	Mtrs	72.00	3888.00	10.5.2
c)	Above 95 sq. mm and upto 185 sq. mm	53	Mtrs	97.00	5141.00	10.5.3
122	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.					

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

a)	Upto 35 sq. mm	20	Mtrs	36.00	720.00	10.6.1
b)	Above 35 sq. mm and upto 95 sq. mm	10	Mtrs	58.00	580.00	10.6.2
c)	Above 95 sq. mm and upto 185 sq. mm	10	Mtrs	80.00	800.00	10.6.3
123	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.					
a)	Upto 35 sq. mm (clamped with 1mm thick saddle)	20	Mtrs	64.00	1280.00	10.7.1
b)	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	5	Mtrs	151.00	755.00	10.7.2
c)	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	5	Mtrs	180.00	900.00	10.7.3
124	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.					
a)	2 X 10 sq. mm (19mm)	24.00	Each	295.00	7080.00	11.1.2
b)	3½ X 25 sq. mm (28mm)	6.00	Each	371.00	2226.00	11.1.20
c)	3½ X 50 sq. mm (35mm)	4.00	Each	484.00	1936.00	11.1.22
d)	3½ X 70 sq. mm (38mm)	2.00	Each	542.00	1084.00	11.1.23
e)	3½ X 95 sq. mm (45mm)	2.00	Each	684.00	1368.00	11.1.24
f)	3½ X 120 sq. mm (45mm)	2.00	Each	710.00	1420.00	11.1.25
	SH-XVI (TOTAL of DSR'2025 (E&M))				**235367.00**	
	SH-XVI (TOTAL of Market Rate)				**220670.00**	
	Grand Total of SH-XVI				**456037.00**	
	SH-I to XVI (TOTAL of DSR'2025 (E&M))				**9319589.00**	
	Add cost index 43% on DSR'2025 to be account for present approved cost index at Gangtok of 143 on DSR'2025 (As on 01.10.2025 based on 100) as per SDG Kolkata OM No. 34(1)/SDG(Kol)/Cost Index/ 2026/ 915 Dated 19.05.2026 (Except MR items)				**4007423.00**	
	SH-I to XVI (TOTAL of Market Rate)				**1462193.00**	
	Grand Total				**14789205.00**	

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

PART – D

CPWD

PROFORMA OF SCHEDULES

(Horticulture Works)

SCHEDULE 'A'

Schedule of Quantities **Page No. 329-334 (Horticulture)**

SCHEDULE 'D'

Extra schedule for specific requirements/document for the work, if any: **Not Applicable**

SCHEDULE 'E'

Reference to General Conditions of contract	**Applicable GCC is General Conditions of contract Construction works 2023, as modified and corrected upto previous day of the last date of submission of the tender.**	
Name of Work:	**Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.Horticulture Works)**	
Estimated cost of the work:	Civil items of work	Rs. 8,37,11,374/-
	Electrical item of work	Rs. 1,47,89,205/-
	Horticulture item of work	Rs. 10,14,353/-
	Total	**Rs. 9,95,14,932/-**
Earnest money	Included in Civil component	
Performance Guarantee	**As per schedule 'F', Part-A**	
Security Deposit	2.5% of the tendered value of the work	

SCHEDULE 'F'
General rules and direction

Officer inviting tender	**Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok.**

Definitions:

2(vi)	**Engineer-in-Charge**	
	For Civil & Horticulture items of work	**Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok or successor thereof**
	For Electrical items of work	**Executive Engineer (E), Siliguri Central Electrical Division, C.P.W.D., Siliguri or successor thereof**
2(viii)	Accepting Authority	**Superintending Engineer, Siliguri, CPWD or successor thereof**
2(x)	Percentage on cost of materials and labour to cover all overheads and profits	**15% Over Head charges and Contractor's Profit on analysis of rates as per CPWD Delhi Analysis of Rates (DAR)**

2(x)(b)	**Standard Schedule of Rates:**	
	Civil Items of Work:	D.S.R. 2023 with correction slips upto previous day of the last date of submission of the tender.
	Electrical Items of Work:	DSR (E&M) 2025 & Market Rate with correction slips upto previous day of the last date of submission of the tender.
	Horticulture Items of Work:	CPWD Delhi Schedule of Rates and Specifications (HORTICULTURE & LANDSCAPING), 2025 with correction slips upto previous day of the last date of submission of the tender & local market rate.
2(xi)	Department:	Central Public Works Department
9(ii)	Standard CPWD contract Form:	**General Conditions of contract Construction works 2023, CPWD Form 7 as modified and corrected upto previous day of the last date of submission of the tender.**

Clause 1	i) Time allowed for submission of Performance Guarantee, **Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof** from the date of issue of letter of acceptance.	7 Days
	ii) Maximum allowable extension **with late**	3 Days

	fee @ 0.1% per day of Performance Guarantee amount beyond the period as provided in (i) above	
Clause 2	Authority for fixing Compensation under Clause 2	**Superintending Engineer, Siliguri, CPWD Or successor thereof**

Clause 5	Number of days from the date of issue of letter of acceptance for reckoning date of start	**10 Days**
	Mile stone(s)-	As per part A
In the event of not achieving the necessary milestones as assessed from mile stone chart, applicable % of the tendered value of work will be withheld for failure of respective mile stone.		

Time allowed for execution of work		**18 Months**
Authority to decide		
(i)	Authority to convey the decision of shifting of milestone and extension of time	Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok or successor thereof
(ii)	Authority to decide rescheduling of milestone and extension of time	Superintending Engineer, Siliguri, CPWD or successor thereof
(iii)	Shifting of date of start in case of delay in handing over of site	Superintending Engineer, Siliguri, CPWD or successor thereof

PROFORMA OF SCHEDULE Clause 5 Schedule of handing over of site

Part	**Portion of Site**	**Description**	**Time Period for handing over reckoned from date of issue of letter of intent**
Part A	Portion without any hindrance	As per part -A	
Part B	Portions with encumbrances		
Part C	Portions dependent on work of other agencies		
Clause 6	Mode of Measurement: - Computerized Measurement Book (CMB) / Electronic Measurement Book (EMB)		**Electronic Measurement Book (EMB)**

Clause 7	Gross work to be done together with net payment/Adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	**200.00 Thousand**
Clause 7A	**Whether Clause 7A shall be applicable**	Yes
Clause 8	**Competent authorities inspect & issue part / final completion certificate.**	
	(a) Final completion certificate	Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok or successor thereof
	(b) Minor works (E&M) completion certificate	Executive Engineer (E), Siliguri Central Electrical Division, C.P.W.D., Siliguri or successor thereof
	(c) Minor works (Horticulture) completion certificate	Executive Engineer, Gangtok Central Division, C.P.W.D., Gangtok or successor thereof
Clause 10A	List of testing equipment to be provided by the contractor at site lab.	As per NIT
Clause - 10B(ii)	Whether clause 10B(ii) shall be applicable.	No.
Clause 10C	Component of labour expressed as percentage of value of work.	**NA**
Clause 10CC		As per Part-A
Clause 11	**Specification to be followed for execution of work**:	
For Horticulture items of work	CPWD DSR, Analysis of Rates and Specifications (HORTICULTURE & LANDSCAPING), 2020 with correction slips up to previous day of the last date of submission of tender.	
	i. Building information model (BIM) is applicable and BIM professional to be deployed by contractor **(NIT approving authority to write Yes or No)**	NO

Clause 12		
	Type of work: -	Construction work
12.2(c)	**Deviation Limit beyond which clauses 12.2(c) shall apply for building work**	**100%**
(i)	Deviation limit beyond which clauses 12.2(c) shall apply for foundation work (except items mentioned in earthwork subhead in DSR and related items)	**100%**

(ii)	Deviation limit for items mentioned in earthwork subhead of DSR and related items	**100%**
The completion cost should not exceed 1.50 times of tendered amount (as per DG/CON/Construction 2023/03 dated 06/12/2023).		

Clause 16	**Competent Authority for Deciding reduced rates:**	
	For Electrical items of work	Superintending Engineer (Siliguri), CPWD **Or successor thereof**
Clause 24	List of mandatory machinery, tools & plants to be deployed by the contractor at site.	Lawn Mower (Petrol, Diesel or Electric powered), Secateure, Hedge shears, Khurpa, Garden Rake, Rose-can, Sprayer machines, watering pipes, sprinkler outlets or any other necessary tools required and as desired by Engineer-in-Charge.
Clause 19C	Authority to decide for each default	**Engineer-in-Charge**
Clause 19D	Authority to decide for each default	**Engineer-in-Charge**
Clause 19G	Authority to decide for each default	**Engineer-in-Charge**
Clause 19K	Authority to decide for each default	**Engineer-in-Charge**

Clause 25	**(iv)**	**Conciliator : SDG, Kolkata.**
	(v)	**Arbitrator Appointing Authority: Chief Engineer (Siliguri).**
	(vi)	**Place of Arbitration: HQ of Engineer-in-charge or as decided by the Arbitrator**

Clause 32	Requirement of Technical Staff					
Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical/Technical representative	Minimum experience	number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 32 Per person

						Figures (Rs. Per person)	Words (Rs. Per person)
	NA						

Clause 38			
i)	a)	Schedule/ statement for determining theoretical quantity of Materials on the basis of Delhi Schedule of Rates 2020 Horticulture & Land Scaping Works published by CPWD	**D.S.R. 2025 Horticulture & Land Scaping Works with correction slips upto previous day of the last date of submission of the tender.**

CPWD

DETAILS OF HORTICULTURE CONTRACTOR

(**To be submitted before start of work**)

v. Name of Horticulture Contractor : M/s .....
vi. Address :.....
vii. Class of Registration :.....
viii.Details of Registration of the Horticulture Contractor

Sl. No.	Department	Registered Yes/No	Registration No.	Tendering limits in Lacs	Validity of Registration	Debarred from Tendering Yes/No
1	2	3	4	5	6	7
1.	CPWD					
2.						
3.						

Note : All columns of above Proforma must be filled in.

Contractor's signature

CONSENT LETTER

I hereby give my consent to work as horticulture contractor till the completion of work. Also I will be responsible for necessary action to hand over the horticulture works and for rectification of defects and re solve during the obligatory maintenance period. I will execute the work as per CPWD Specifications and Additional Conditions of the Contract.

I will also engage suitable & eligible person for the work as per condition of the contract. I further certify that the above particulars pertaining to me are correct.

Dated :

Signature of Horticulture Contractor

GENERAL CONDITIONS

1.1 The quoted rates should be inclusive of all the Taxes, Cartage etc. & nothing shall be paid extra except quoted rates.

1.2 The undersigned reserves the right to accept or reject the rates without assigning any reason.

1.3 The undersigned reserves the right to increase or decrease the quantity of work, as per actual requirement at site.

1.4 Time for completion of work is **18 (Eighteen) months.**

1.5 No compensation will be payable to the contractor on account of damage or loss of his tools and plants or materials at site of work.

1.6 No T & P shall be given to the contractor

1.7 The rejected materials should be replaced immediately by contractor at his own risk & cost.

1.8 The contractor shall follow the provision of contract labour (Regulation and Abolition Act,1970 and minimum wages Act etc).

1.9 The work shall be carried out as per CPWD Specification and as per direction of Officer –in-charge.

1.10 Irrigation shall be arranged by the Contractor where irrigation water is not available at site of work.

1.11. The contractor should have sound knowledge of Horticulture operation like weeding, hoeing, forking, manuring etc.

1.12 The contractor should have their own garden tools & plants like Brush cutter, Lawn mower, Hedge/ edge cutter, Budding & grafter knife etc.

1.13 No compensation will be payable to the contractor on account of damage or loss of his tools and plants or materials at site of work.

1.14 The contractor shall have to replace the casualty of any plant species as per the agreement.

CONDITIONS FOR HORTICULTURE WORK

1. The work shall be carried out as per CPWD yardstick CPWD Specification-2019 Vol.-I & II with up to date correction slip and as per CPWD Horticulture specification.
2. The contractor shall take instruction from the officer –in-charge regarding supply and staking of material at site and execution of work etc. He shall bear all charge for storage and safe custody of materials.
3. All garden rubbish/waste/garbage etc. generated due to any operation from Horticulture work and in lawn area whatsoever shall be disposed off on daily basis by the contractor to the specified common disposal point and nothing extra shall be paid on this account. After the collection of full truck load of the said rubbish/waste/garbage etc. the same shall be disposed off by the contractor to the authorized municipal dhalao/dumping ground, in case of/disposal in the specific period, as penalty Rs. 2000/- (Rupees two thousand only) per day shall be recovered from the contractor.
4. Contractor / agency shall provide proper uniform to the workers with half jacket (fluorescent material), which bears the name of CPWD (Horticulture) prominently design to be got approved from officer-in-charge, nothing shall be paid to the agency on this account.
5. The contractor or his supervisor will regularly meet with the site officer-in-charge for taking the direction.
6. In case of any causality of shrubs, trees or any other plants, during maintenance period, contractor will have replace the trees/shrubs/other plants of the same height and specification at his own risk and cost and nothing extra shall be paid for the same, in this regard recovery of the Rs. 60/- per shrubs, Rs. 250/- per tree, Rs. 200/- for each other foliage/decorative plants and Rs. 100/- per Sqm. For lawn shall be made. The decision of the Dy. Director of Horticulture shall be final and binding in this regard.
7. The rejected and substandard materials should be removed from the site of work immediately; the Department shall not be responsible for any damage / loss of rejected material. If the same will not be removed within five days after issuing notice In writing by Executive Engineer/Deputy Director of Horticulture, then necessary recovery shall be made @ Rs.500/- per day.
8. The staff deployed for horticulture work must have good knowledge about horticulture works operations like hedge cutting, lawn mowing, planting of trees/seedlings, lawn maintenance, potted plants maintenance etc. and supervisor should be well behaved, experienced and qualified to communicate with the clients, occupants, staff and officers.
9. The contractor shall maintain the attendance of staff/labour deployed at site through bio-metric system or authentic proof of attendance; nothing shall be paid to the agency on this account.

10. The contractor shall have registration with EPFO and ESIC for safeguard interest of his workers. The contractor shall make deduction on account of EPF &ESIC to labour/staff deployed by him on the work and will furnish detail of each worker at division office every month. No payment shall be made without producing proof of submission of ESIC & EPF of every person deployed on this work
11. The material and plant shall be supplied as and when required basis, as per direction of officer-in-charge.
12. All the T&P, related spare parts, its repairing ,fuel and other then T&P items like irrigation pipe hessian cloth, broom etc. required for maintenance shall be arranged by the contractor at his own cost.
13. The Department shall not be responsible for any injury, or death of nay worker at site due to accident during functioning of the equipped or by negligence of the contractor/agency.
14. The contractor will be responsible for police verification of the labour & permission of vehicle deployed for the execution of the work. They have to follow all the security norms/guideline s of the concerned Ministries/Department. A list of workers deployed will have to provide to the Officer-in-charge before starting the work to get the necessary security passes and other security clearance well in advance.
15. All the engaged workers are to be equipped with photo identity cards issued by the contractor and contractor will maintain their particulars (i.e. Name, father's name, Local address and permanent address etc.). A copy of the same will be provided to the Officer-in-charge. The expenditure on this account will be borne by contractor and nothing will be reimbursed for it.
16. The attendance register shall be maintained by the contractor. Officer-in-charge can verify this register at any time. This will be submitted with each RA bill along with particulars as mentioned above.
17. In case of any restriction imposed for working in the area by the security agencies or any other authorities during events, contractor shall strictly follow such restriction and nothing extra shall be payable to the contractor on this account.
18. The contractor will have to engage the minimum labour (as per yard stick of the work) not below the age of 24 years.
19. In case of absence from duty by labours, same no. of labours have to be engaged by contractor, else amount shall be recovered @ double of current minimum wages from the each contractor's bill.
20. The contractor or his representative should be available at site on every visit, of officer-in-charge as well as visit of senior officers.
21. Sample of grass may be got approved from the officer-in-charge, in case of regressing/relaying of grass.
22. In order to ensure the suitability of good earth supplied for Horticulture purpose Lab test will be required for every 300 Cum. of good earth supplied.

TECHNICAL SPECIFICATION AND TERMS & CONDITIONS FOR HORTICULTURE WORKS

1. **GENERAL**

   The technical specifications and terms & conditions for Development of Horticulture works should be read in conjunction with the general conditions of contract.

2. **SCOPE OF WORK**

   The scope of the contract covers all landscape Development works in respect of existing garden features as detailed under the item of work which includes lawns, at all the levels of the area including self grown trees within the area, if required to be retained.

   The Engineer-in-charge has the right to carry out further Landscape development in these areas and minor extensions will be included in the scope of works but major projects will be dealt with separately.

   All garden areas including plantation areas are to be kept neat and tidy throughout the period of contract.

3. **PERIOD OF CONTRACT**

   The period of contract will be Eighteen (18) months for development and Three (03) months for maintenance.

4. **GENERAL SUPERVISION**

   The development and Maintenance of landscaping and horticulture works will be carried out under the general supervision of the Engineer-in-charge or his authorized representative.

   The areas will be regularly inspected by the authorized staff of the Department to check the, materials being used, attendance of the contractor's staff and for general supervision.

   The instruction of departmental staff is to be carried out promptly. In case of any difference of opinion / interpretation of specifications and conditions, the matter is to be referred to the Engineer-in-charge for his decision, which shall be final and binding.

5. **CONTRACTOR'S SUPERVISION**

   a) The contractor must engage one full time Garden Supervisor who preferably should be experienced in the horticulture field.

      OR

   b) Retired Chowdhury (Garden supervisor) from CPWD or other Government Department Undertaking or Firm of repute with good physique & health, with

sound knowledge of the subject and he should be literate enough to maintain the required records.

The staff engaged by the contractor shall not be substituted except for sickness/ approved leave or otherwise found unfit for the job.

Minimum one supervisor is to be engaged for 10-20 numbers of staff. In case, the total staff is less than 10 Nos. one of the skilled labour shall work as working supervisor. But, he must possess the qualification as mentioned in Para 5 (b).

6. CONTRACTOR'S MANPOWER AND MANAGEMENT

i. The staff engaged by the contractor shall not be substituted except for sickness/approved leave or otherwise found unfit for the job.

ii. Minimum one supervisor is to be engaged for 10-20 numbers of staff. In case, the total staff is less than 10 Nos. one of the skilled labour shall work as working supervisor, but, he must possess the qualification as mentioned in Para 5 (b) above.

iii. The contractor must engage gardeners and other staff with adequate experience of horticulture works, not construction labour for lawn / landscape Development works.

iv. The number of field staff for maintenance of different garden features and operations required is specified as per Approved Yardstick of Govt. of India or is based on actual requirement as experienced where Yardstick is not prescribed. The contractor should examine this strength and in case of disagreement on strength of field staff, he should make submission with valid reasons well before the submission of tender documents for consideration of the Engineer-in-charge whose decision shall be final.

v. The contractor shall have to engage the minimum agreed strength of staff at all the times. Due to any exigencies, if some additional staff is required to be deployed no additional payment will be made to the contractor if the works are to be carried out within the maintained area, and within the scope of work.

vi. The contractor shall maintain attendance and other records of the manpower engaged by him as required under the rules and must observe all the formalities required under the labour act.

vii. The garden staff shall wear uniform / dress of approved design and colour during the working hours.

7. GENERAL MAINTENANCE OPERATIONS

The maintenance shall include watering, fertilizing, plant protection from pests and diseases, mowing and upkeep of lawns, sweeping and disposal of garden refuse, minor weeding, cutting of edges, pruning and clipping of hedges, topiary work as per pruning standards, raking, preparation and planting of seasonal flowers, minor repair works, and all other landscape operations necessary for the proper growth of garden features and presenting a satisfactory standard of maintenance throughout the period of contract. The general maintenance includes but is not limited to the works specified in the following paragraphs.

8. IRRIGATION

The contractor shall be responsible for the daily watering of the lawn / landscape areas, at his cost for labour and material (like hose pipes, hydrant keys, etc.).

The contractor shall be responsible for the adequate watering of the lawn / landscape areas.

The contractor shall be responsible for washing / spraying with water of trees, shrubs and other plants as and when directed to do so.

Cost of water and watering is included in the scope of the contract and the contractor shall make his own arrangement for water.

If departmental water supply is utilized, water charges @ 1% of the value of work done will be recovered from the bills payable.

9. MANURING AND FERTILIZATION & SPREADING OF GOOD EARTH

The contractor shall do the required manuring and three applications (November to February) of fertilization and spreading of good earth. The labour involved in manuring and fertilizing shall be borne by him. The cost of fertilizer / manure and good earth will be paid separately under relevant items

10. PLANT PROTECTION

Periodic checks are to be carried out for pests and diseases. In the event of infestation, prompt spraying of appropriate pesticides, fungicides etc. will be required for eradication of the same.

Spraying is to be handled by Trained staff in this field. The contractor shall be held fully responsible for any damage caused to garden features by application of wrong chemicals.

The contractor shall be held responsible for any mishap or injury to the staff handling insecticides and fungicides etc.

The required insecticides, fungicides, chemicals etc. shall be supplied by the contractor and paid for separately and all other operations regarding the plant protection shall be carried out by the contractor and costs borne by the contractor.

11. LAWN MOWING AND SWEEPING

Lawn should be mowed at regular intervals and grass should not be allowed to over grow under any circumstances. The frequency of lawn mowing in the following orders is to be observed except in case of unavoidable circumstances. Trimming of grass, hedge and mowing margins with the help of garden sword / hedge sheer / edge sheer / khurpa etc. should be done immediately after mowing.

All garden refuse, dry leaves, dry branches etc. and machine cut grass shall be Removed and disposed by the contractor to appropriate dumping area as specified by the department.

12. PRUNING AND TRAINING

Clipping and training of hedges, edges minimum once in a fortnight and trimming shrubs, trees, creepers, Bougainvilleas and other standard plants shall be carried out at regular intervals.

Stacking of plants, wherever required and stacks and supports shall be adjusted from time to time. This also requires replacement of damaged tree belts / tree ties by the contractor.

Pruning, Cutting and Clipping, Deadwoods, Water sprouts, Suckers shall be removed, hedges and other standard required to achieve formal and geometric shape shall be so clipped.

Regular cutting back of certain types of plants to encourage proper growth, Pruning shall be done in such a manner as not to cause too much change in their natural and normal shape.

Standard should be so trained that they present a uniform shape.

13. CULTIVATION & WEEDING

Regular minor weeding of lawns, cutting of edges of lawns, ground covers and flower beds, making basins of trees and shrubs pits and hoeing is to be done. The garden is to be kept free from weeds of alien plants. This operation must be carried out at frequent intervals throughout the year, to keep the garden neat and tidy all along the period

14. FLOWERS AND PLANT MATERIAL

The flowers beds are to be maintained by planting winter and summer seasonal flowers. This includes preparation of flowers beds, submission of planting schemes at least three months in advance of planting indicating the varieties / colours of

planting beds and proper care. The contractor must raise the seedlings of approved species of seasonal flower plants in a nursery as far as possible. The adequate number of seedlings shall be planted. The contractor shall make good any damages to the seedlings / flower plants that may occur during the period. The flowers beds should be thoroughly dug and prepared at least 3 to 4 weeks before actual plantation.

15. **REPAIR AND REPLACEMENT**

The contractor shall carry out all minor repairs to garden features damaged due to digging in the area, negligent handling by the staff, soil erosion caused by excessive watering / rains including replacement of plants that die during the period of maintenance operations or those that are unhealthy, unsightly or of impaired condition, as soon as practicable after damage is identified. Any replacement by substitution suggested by the department shall be done by removal of existing plant material etc. making pits for new ones and actual planting.

The cost of garden features, plant material etc. due to natural calamities shall be borne by the department. However, labour required for these purposes shall be arranged by the contractor.

16. **PERCAUTIONARY MEASURES**

The contractor must take all necessary precautions for carrying out the above operations. In the event of any injury / accident to any person(s) damage to government or private properties, the responsibility and liability will be entirely on the contractor.

17. **PAYMENT FOR WORK DONE**

All payment to the contractor shall be based on the measurements for work done as submitted by the contractor duly certified by the SO(H)/AE as authorized by the Engineer-in-charge.

18. **QUANTITY OF WORK**

The quantity of work may be increased or decreased by the competent authority and the contractor shall be bound to execute the work on the quoted rates as per relevant clauses of the agreement.

19. **RATES**

The rates should be inclusive of all expenses such as wages, cutting of hedge, mowing of lawn, application of fertilizers, insecticides and pesticides and disposal of Horticultural rubbish generated during the entire period.

20. **TOOLS AND PLANTS / AGRICULTURAL MACHINERY**

All the tools & plants / agricultural machinery required for the proper maintenance of the lawn / landscape works shall be arranged by the contractor including Hose pipes & Manual or power-Driven Lawn Mowers, manually operated Sprayers etc.

GOOD EARTH (SPECIAL CONDITIONS)

1. Good earth shall be suitable for gardening free from kankar, moorum, shingle, rocks, stones, brick bats, building rubbish, sandy loam.

2. Good earth supplied shall be well drained, fertile, having the pH value in the range of 6.5. to 7.5.

3. One sample for every 300 Cum. Or whenever there is a change of source of earth shall be got tested for pH Value from a reputed laboratory as approved by the Engineer-in-charge.

4. The earth shall be free from clods or lumps or sizes bigger than 75 mm in any direction.

5. The earth shall be stacked at site in stacks not less than 50cm high and of volume not less than 3.00 cum.

6. Length, breath and height of stacks shall be measured correct to a cm. The volume of the stacks shall be reduced by 20% for voids before payment, unless otherwise described.

7. If good earth is rejected due to certain reasons, the same should be replaced immediately.

MANURE (SPECIAL CONDITIONS)

1. The manure shall be suitable for gardening, fertile and well decayed, free from grit and other unwanted materials and dusty soil.

2. Length, breath and height of stacks shall be measured correct to a cm. The volume of the stacks shall be reduced by 8% for voids before payment, unless otherwise specified.

3. The manure shall be stacked at site in stacks not less than 50 cm high and of volume not less than 3.00 cum.

4. If manure is rejected due to certain reasons, the same should be replaced immediately

SPECIAL CONDITIONS FOR HORTICULTURE

1. Unless otherwise provided in the schedule of quantities or CPWD specifications 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 extra shall be payable to him on this account.

2. The contractor shall make his own arrangements for obtaining electric connections if required and make necessary payments directly to the department concerned.

3. Other agencies doing works related with this project may also simultaneously execute their works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc for laying/burying in the work pipes, cables, conduits, clamps, boxes and hooks for fan clamps etc as may be required for other agencies. Conduits for electrical wiring/ cables will be laid in a way that they leave enough space for concreting and do not adversely affect the structural members. Nothing extra over the agreement rates shall be paid for the same.

4. Some restrictions may be imposed by the local police etc. on the working time and for movement of labour, materials etc. the contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account.

5. The works shall be carried out in a manner complying in all respects with the requirements of relevant bylaws of the local body under the jurisdiction of which the work is to be executed and/ or as directed by the Engineer-in-charge and nothing extra will be paid on this account.

6. Unless otherwise specified in the schedule of quantities, the rates for all the items shall be considered as inclusive of working in or under water and / or liquid mud and/ or foul conditions including pumping or bailing out liquid mud or water accumulated in excavations during the progress of the work from springs, tidal or river seepage, rain, broken water mains or drains and seepage from subsoil aquifer.

7. All the materials to be used on works shall bear ISI certification mark unless otherwise the make is specified in the item or special conditions appended with this tender document. In case of make of materials is specified in item, only articles classified as best quality shall only be used.

8. Mines & Quarries - Recovery of Seigneorage Charges from the bill of the Contractor Royalty at the prevalent rates including contribution towards Mineral Exploration Research and Innovation Trust (MERIT) @ 2% on Seigniorage fee and District Mineral Foundation (DMF) @ 30% of Royalty / Seigniorage fee, Consideration amount @ 100% of the seigniorage fee shall have to be paid by the contractor or the RMC supplier as per the terms of supply between them (Rates of Seigniorage fee shall be as per the latest prevalent as notified by the State Government) on all the boulders, stone aggregate, brick aggregate, shingle, coarse or fine sand, earth, gravel, bajri etc. collected by him for the execution of the work, directly to the Revenue Authority or authorized agent of the State Government concerned or Central Government and entire responsibility for the same lies with the contractor. Nothing extra shall

be payable on this account. Further, if any compliant is received by this office regarding non-payment/less payment of royalty, contractor shall submit proof of submission of full royalty to the State Government or local authority failing which the recovery at the rates specified by the respective state government department will be made from the bills payable to the contractor. No foreign exchange shall be made available by the Department for importing (purchase) of equipments, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate. Further Contractor has to submit the affidavit in 100 rupees Non-Judicial stamp paper along with the final Bill as follows:
"I have paid the total seigniorage fee directly to the respective state government department/Local authority in respect of our contract. If any pending payment raised by any state government department / Local authority, the balance payment shall be paid by me or can be recovered from the ongoing works in the CPWD."

9. The contractor will have to work according to the program of work, approved by the Engineer-in-charge.

10. The contractor shall take instructions from the Engineer-in-charge for stacking of materials in any place. No excavated earth or building material shall be stacked on areas where other buildings, roads, services or compound walls are to be constructed.

11. The contractor shall be fully responsible for the safe custody of the materials issued to him even if the materials are under double lock system.

12. The contractor shall construct suitable godowns, yards at the site of work for storing all other materials so as to be safe against damage by sun, rain, fire, theft etc., at his own cost and also employ necessary watch and ward establishment for the purpose at his cost.

13. The contractor shall submit bar chart for completion of the work duly signed so as to complete the work in stipulated time period and get it approved from the Engineer-in-Charge before commencement of work.

14. Any delay / failure on the part of tenderer to arrange for men and materials at required time shall not be considered as valid hindrance.

PARTICULAR SPECIFICATIONS FOR HORTICULTURE

1. Unless otherwise specified, CPWD Specifications 2020 for Horticulture & Landscaping with up-to-date correction slips shall be followed in general. Any additional item of work if taken up subsequently shall also conform to the relevant CPWD specifications mentioned above. Should there be any difference between description of items as given in the schedule of quantities, nomenclature and specifications for individual items of work (special conditions) and IS codes, the work shall be executed in the following order of preference:
    i. Description of items as given in Schedules of Quantities
    ii. Special Conditions and Particular Specifications
    iii. CPWD Specifications
    iv. BIS Codes

2. In case of items not covered by the CPWD specifications referred to above, or particular specifications attached, reference shall be made to appropriate latest IS codes and the decision of the Engineer-in-Charge shall be final and binding on the contractor.

3. Wherever any reference to any Indian Standard specification 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 bids.

4. The work shall be executed and measured as per metric dimensions given in the schedule of quantities, drawings, etc. (F.P.S units wherever indicated are for guidance only)

5. The contractor shall get the samples of good earth, trees etc., to be used in work approved well in advance from the Engineer-in-Charge before placing orders.

6. The contractor shall produce all the materials in advance so that there is sufficient time for testing and approving of the material and clearance of the same before use in work.

ADDITIONAL CONDITIONS OF CONTRACT FOR HORTICULTURE WORKS

Eligibility Criteria for Agencies responsible for execution of minor components (Horticulture works) and Terms & Conditions for Association of specialized firms for Horticulture Works.

a) The composite contractor shall have to associate other agency/agencies for the work of above mentioned Horticulture and Landscaping sub heads that fulfils the following requirements, shall be eligible to apply.

b) Should have satisfactorily completed the works as mentioned below during the last seven years ending last day of submission of tender:

i. Three similar works each of value not less than 40% of estimated cost of respective Horticulture component

OR

ii. Two similar works each of value not less than 60% of estimated cost of respective Horticulture component

OR

iii. One similar work of value not less than 80% of estimated cost of respective Horticulture component

Similar work means **"Development of area by landscaping with grass turf, plantation of trees, shrubs and hedges"**

The Main contractor shall have to engage eligible agencies fulfilling the following eligibility criteria as mentioned for execution of minor components (Horticulture & Landscaping works). In case the main contractor himself meets the given criteria; he shall be allowed to execute the minor component of work after due verification of his credentials by the Engineer-in-Charge of Horticulture & Landscaping Works.

PROFORMA FOR MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING [M.O.U] BETWEEN

(TO BE SUBMITTED BEFORE START OF WORK)

1] M/S [Name of the firm with full address)
Enlistment Status
Valid Upto:
[Henceforth called the main contractor]
And

2] M/S [Name of the firm with full address)

Enlistment Status

Valid Upto:

[Henceforth, called Associated Electrical Contractor or Electrical Contractor]

Name of Work:- Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.

[Horticulture and Landscaping Component only] as per schedule, specifications, terms and conditions of tender

We state that MoU between us will be treated as an agreement and has legality as per Indian Contract Act (amended up to date) and the department (CPWD) can enforce all the terms and conditions of the agreement for execution of the above work. Both of us shall be responsible for the execution of work as per the agreement to the extent of this MoU allows. Both the parties shall be paid consequent to the execution as per agreement to the extent this MoU permits.

We have agreed as under:

1. The associated contractor shall be liable for disciplinary action if he failed to discharge the action(s) and other legal action as per agreement besides forfeiture of the security deposit.

2. All the material, machinery and equipment, tools and tackles required for execution of the Horticulture & Landscaping work as per agreement shall be the responsibility of the associated contractor.

3. The site staff required for the Horticulture & Landscaping work shall be arranged by the associated contractor as per terms and conditions of the agreement.

SIGNATURE OF MAIN CONTRACTOR	SIGNATURE OF ASSOCIATED Horticulture CONTRACTOR
Date	Date
Place	Place

PROFORMA FOR WILLINGNESS CERTIFICATE

WILLINGNESS CERTIFICATE
(To be submitted before start of work)

Name of Work: Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.

I hereby give my willingness to work as electrical contractor for the above mentioned work.

I will execute the work as per specifications and conditions for the agreement and as per direction of the Engineer-in-charge. Also I will employee full time technically qualified supervisor for the works. I will attend inspection of officers of the department as and when required.

Date: **Signature of Contractor**

SCHEDULE OF QUANTITIES (Horticulture Works)

Name of Work :- Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.

Sl. No.	Description	Qty	Unit	Rate	Amount	DSR No.
1	Horticulture and Landscaping					2
1.1	Trenching in ordinary soil up to a depth of 60 cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly levelling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or / and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	390	Cum	119.00	46410.00	2.1
1.2	Supplying and stacking of good earth at site including royalty and carriage upto 5 km lead complete (earth measured in stacks will be reduced by 20% for payment).	195	Cum	803.75	156731.00	2.2
1.3	Rough dressing the trenched ground including breaking clods.	1300	Sqm	2.30	2990.00	2.5
1.4	Uprooting weeds from the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.	1300	Sqm	7.45	9685.00	2.6
1.5	Fine dressing of the ground.	1300	Sqm	5.60	7280.00	2.7
1.6	Spreading of sludge, dump manure and/or good earth in required thickness as per direction of officer-in-charge (cost of sludge, dump manure and/ or good earth to be paid separately).	325	Cum	79.70	25903.00	2.8

1.7	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20% : one part of stacked volume of sludge or manure after reduction by 8%), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed, within a lead of 50 m, lift up to 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately).	54	Cum	339.85	18352.00	2.13
1.8	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any, with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately)					2.14
1.8.1	Holes 60 cm dia, and 60 cm deep	60	Each	47.85	2871.00	2.14.3
1.9	Flooding the ground with water including making kiaries and dismantling the same.	1300	Sqm	3.05	3965.00	2.24
1.1	Supplying and stacking of well decayed cattle manure at site including royalty and carriage upto 05 k.m. lead complete (Cattle manure measured in stacks will reduced by 8% for Payment).	65	Cum	667.10	43362.00	2.25
1.11	Supplying and spreading of sand in Lawn area, including watering, mixing and dressing complete.	65	Cum	2088.90	135779.00	2.27C
1.12	Providing and laying Neelgiri/Mexican grass turf with earth 50mm to 60mm thickness of existing ground prepared with proper level and ramming with required tools wooden (Dhurmos) and than rolling the surface with light roller make the surface smoothen and light, watering with sprinkler and maintenance for 30 days or more till the grass establish properly as per direction of officer-in-charge.	800	Per sqm	257.00	205600.00	2.33

1.13	Complete maintenance of the entire garden features having as per yard stick in the garden area i.e. lawn trees, shrubs, herbs, edge, flower beds, foliages, creepers etc. including hoeing pruning replacement of plants, gap filling, watering, mowing of lawn, grass cutting by lawn mover and brush cutter, removal of garden waste, applying insecticide, pesticide & fertilizers(whenever required), top dressing of lawn with good earth and manure and maintenance of other garden related works as directed by officer-in-charge (Cost of Good Earth, Manure, Fertilizer, Insecticide, Pesticide and plants will be provided by the department and lawn mover and brush cutter with fuel & other T & P material/articles shall be provided by the contractor).					2.4
1.13.1	Office accommodation. (1.25 Acres = One Mali) As per yard stick.	3900	Per sqm/ per month	4.95	19305.00	2.40.3
1.14	Maintenance of potted plants displayed at multi storied office buildings, flats/bungalows including application of good earth, manure, insecticide, pesticide and fertilizer, removing of dry parts by pruning, cleaning dry leaves and displaying in appropriate place and replacement of broken pots coloring of pots and change of location of pots and replacing with fresh plants as and when required (Materials provided by the department) as per direction of officer in charge (1 mali for 250 Nos. Earthen/Plastic Pots).	570	Per Pot/ Per Month	98.20	55974.00	2.47
1.15	Removal of garden waste by TATA 407 or equivalent including loading/ unloading and carriage upto 1 km lead,complete disposal upto designated place as per direction of officer-in-charge	15	Per trip	615.25	9229.00	2.6
	Sub-Total				743436.00	
2	Foliage and Shade Loving Plants					3
2.1	Providing, stacking and Displaying Areca Palm (dwarf) having ht. 90 cm to 105 cm with 45 to 50 suckers well developed fresh and healthy with lush green foliage in 30 cm Earthen /Plastic pot and as per direction of the officer-in-charge.	30	Each	512.05	15362.00	3.101

Addition: NIL ***Correction: NIL***
Overwriting: NIL ***Deletion: NIL*** ***AE(P)/SC*** ***AE(E)(P)/SC*** ***EE(Gangtok)*** ***EE(E), Siliguri***

2.2	Providing, stacking and Displaying Radermachera plant having 150 cm and above height well developed, multibranched with fresh and healthy bottom to top full of lush green foliage in 35 cm Cement pot/ plastic pot and as per direction of the officer-in-charge.	30	Each	555.20	16656.00	3.11
2.3	Providing, stacking and Displaying Sansevieria variegated having height 30 cm and above with fresh & healthy foliage 8 and more leaves well developed in 16 cm to 20 cm Ceramic pot and as per direction of the officer-in-charge.	30	Each	308.45	9254.00	3.112
2.4	Providing, stacking and Displaying Spathiphyllum (peace lilly) having ht. 25 cm and above, blooming stage with fresh & healthy foliage, well developed in 16 cm to 20 cm Ceramic pot and as per direction of the officer-in-charge.	30	Each	320.80	9624.00	3.114
	Sub-Total				50896.00	
3	Seasonal Plants					4
3.1	Providing, stacking and Displaying Freesia hybrid 6 to 8 plants in full bloom, with fresh and healthy flower and foliage stacked with Green painted bamboo sticks in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	50	Each	88.85	4443.00	4.3
3.2	Providing, stacking and Displaying Pansy Hybrid Sakata well developed with fresh & healthy foliage with 3 to 4 flower in bloom in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Each	59.20	5920.00	4.47
3.3	Providing, stacking and Displaying Poinsettia dwarf multi head, having 25 to 30 cm ht., with 5 to 7 branches with fully coloured top with fresh & healthy foliage well developed in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	50	Each	286.25	14313.00	4.55
3.4	Providing, stacking and Displaying Ranunculus Hybrid variety in different colour specimen 5 to 6 plants in each Pot with fresh & healthy foliage in full bloom well developed in 35 cm Earthen Tray/Nand and as per direction of the officer-in-charge.	25	Each	555.20	13880.00	4.58

3.5	Providing, stacking and Displaying Chrysanthemum multiflora variety of different colour well developed having 20 cm and more ht., 200 and above half bloom flowers, well stacked fresh and healthy foliage in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in- charge.	50	Each	252.95	12648.00	4.95
	Sub-Total				51204.00	
4	Ornamental Plants					5
4.1	Providing, stacking and Displaying Bamboo Buddha Valley with fresh & healthy 5 to 6 suckers 1.80 m to 2.10m ht umbrella type plant well developed in 50 cm Cement Pot/ Plastic Pot and as per direction of the officer-in- charge.	15	Each	1548.45	23227.00	5.9
4.2	Providing, stacking and Displaying Bird of paradise well developed with fresh & healthy 90 cm to 120 cm ht in 30 cm Earthen Pot/ Plastic Pot and as per direction of the officer-in-charge.	25	Each	419.50	10488.00	5.1
4.3	Providing, stacking and Displaying Ficus reginold piller type Topiary well developed with fresh & healthy 210 cm to 240 cm ht in 40 cm Cement Pot/ Plastic Pot and as per direction of the officer-in-charge.	15	Each	2467.60	37014.00	5.26
4.4	Providing, stacking and Displaying Ixora dwarf different colour having 10 cm to 15 cm ht., well developed with fresh & healthy foliage with bloom in 15 cm Earthen Pot/Plastic Pot and as per direction of the officer-in- charge.	200	Each	148.05	29610.00	5.55
	Sub-Total				100339.00	
5	Tree Plants					7
5.1	Providing and stacking of Pinus longifolia (Pinus) height 90-105 cm. in cement pot size 35 cm as per direction of the officer-in-charge.	20	Each	595.85	11917	7.65
5.2	Providing and stacking of Terminalia mentaly of ht. 180-210 cm, healthy, well developed in big Poly/Gunny Bag as per direction of the officer-in- charge.	20	Each	662.05	13241	7.95
	Sub-Total				25158	

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6	Shrubs					8
6.1	Providing and stacking of Malpighia coccigera of height 30-45 cm., multibranched in earthen pot of size 20 cm as per direction of the officer-in-charge.	800	Each	54.15	43320	8.45
	Sub-Total				43320	
	Total				1014353	

Abstract of Estimated Cost

Name of Work:- Construction of office Building(G+2) of Indian Meteorological Department at Gangtok, Sikkim i/c Site Development, E&M works consisting IEI, EPBAX, LAN/WIFI system, UPS, DG set, Solar system, Fire Alarm & Fire Fighting system etc and Horticulture works.				
Description		**Estimated amount (Rs.)**	**Rate to be quoted by agency in percentage above/below/at par with respect to estimated cost**	**Amount Quoted by agency (In Rs.)**
1.	**As per Total of Schedule of Quantity (Civil Component)**	**8,37,11,374.00**		
2.	**As per Total of Schedule of Quantity (Electrical Component)**	**1,47,89,205.00**		
3.	**As per Total of Schedule of Quantity (Horticulture)**	**10,14,353.00**		
Total Estimated Cost		**9,95,14,932.00**		

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