



**GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT
OFFICE OF THE EXECUTIVE ENGINEER,
HYDERABAD - I,
CPWD, NIRMAN BHAVAN, SULTAN BAZAR,
HYDERABAD - 500001.**

Ph.No.040-24657727, Fax: 040-24607727, Email: eehcd1@gmail.com, website: <https://cpwd.gov.in>

NOTICE INVITING TENDER

**NIT No: 32/2026-27/Hyd-I/Hyderabad
(17/CE-HYD/2026-27)**

**Name of work: Renovation of CCPF Hanger at Advanced
Materials Technology Incubator (AMTI) Facility at ARCI
Campus, Balapur, Hyderabad.**

**Estimate Cost: Rs.1,24,85,142/-
[(Civil Component: Rs.1,04,47,987/-) (Electrical Component: Rs.20,37,155/-)]**

INDEX

Name of work:- Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.

	PART-A	
1	Notice inviting e-Bid	
2	Information and instructions to contractors for e- tendering	5-8
3	List of Documents to be scanned and uploaded within the period of bid submission:	9
4	CPWD-6 for E-Tendering	10-15
5	C.P.W.D – 7	16-18
6	Schedules A to F (Civil Component)	19-23
7	Undertaking on Structural Stability and Soundness of Already Completed Building and Infrastructure Projects.	24
8	Form of Bank Guarantee for Earnest Money Deposit / Performance Guarantee / Security Deposit / Mobilization Advance	25-26
9	Sample letter of acceptance of tender and commencement of work	27-28
	PART - B	29-30
10	Conditions of contract, General Rules & Directions	31-57
11	Special Conditions and Particular Specifications for Civil Work	58-76
12	Environment Management	77-80
13	Guarantee bond for removal of defects in Water Proofing Treatment	81
14	Guarantee bond for removal of defects in Aluminium Work for Doors, Windows, Ventilators / Structural Glazing Work	82
15	Seigniorage charges	83-89
16	List of Approved / Preferred Makes	90-129
17	Cement godown sketch	130
	PART- C (Electrical- Minor Component)	131-132
18	Schedule A to F (Electrical component)	133-138
19	Special conditions & Eligibility criteria for E&M works	139-145
20	General terms & conditions applicable for ALL E&M components	146-163
21	C.1 Commercial & Technical Conditions for Internal Electrical Installations	164-172
22	List of Preferred Makes of Internal Electrical Installations.	173-222
23	Schedule of Quantities	223-256

24	Abstract of Cost of Civil & Electrical	257-258
25	Abstract of Schedule	259

Certified that this Notice Inviting Tender contains 01 to 259 Pages only

Assistant Engineer (C)

Assistant Engineer (E)

Executive Engineer (C)

**The Notice Inviting Tender is approved for Rs. 1,24,85,142/-/- (Rupees One Crore
Twenty Four Lakhs Eighty Five Thousand One Hundred and Forty Two Only)**

Approved

**Chief Engineer
CPWD, Hyderabad.**

PART-A

Name of Work:- Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.

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CENTRAL PUBLIC WORKS DEPARTMENT
NOTICE INVITING e-BID

The Executive Engineer, Hyderabad-I, CPWD, Hyderabad, on behalf of President of India invites online Percentage rate bids from approved and eligible contractors of CPWD, for the following work:

NIT No. 32/2026-27/Hyd-I/Hyderabad (17/CE-HYD/2026-27)

Name of work: - Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.

Estimated Cost Put to Tender : Rs. 1,24,85,142/-
 [(Civil Component: Rs. 1,04,47,987/-)]
 [(Electrical Component: Rs. 20,37,155/-)]

Earnest Money : Rs. 2,49,703/-

Period of completion : 180 days

Last time and date of submission of online bid: **15:00 hours on 12/08/2026**

The bid forms and other details can be obtained from the website <https://etender.cpwd.gov.in> or www.cpwd.gov.in. Further modification or change of dates, if any, can be seen in the above stated tender web site.

**Executive Engineer,
HYDERABAD -I, CPWD, Hyderabad.**

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**INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e-TENDERING
FORMING PART OF BID DOCUMENT
(Applicable to Inviting open bids)**

The Executive Engineer, Hyderabad-I, CPWD, Hyderabad, on behalf of President of India invites online Percentage rate bids from approved and eligible contractors of CPWD, for the following work:

Sl.No.	Description	Details
1	NIT No.	32/2026-27/Hyd-I/Hyderabad (17/CE-HYD/2026-27)
2	Name of Work & Locations	Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.
3	Estimated Cost Put to Bid	Rs. 1,24,85,142/-
4	Civil Work (Major Component)	Rs. 1,04,47,987/-
5	Electrical Work (Minor Component)	Rs. 20,37,155/-
6	Earnest Money (EMD)	Rs. 2,49,703/-
7	Stipulated Period of Completion of work	180 days
8	Last date and time of online submission of bid, Copy of receipt of deposition of original EMD, and other documents as specified in the bid document.	Up to 15:00 Hours on 12/08/2026
9	Period during which hard copies of documents shall be physically submitted by the lowest bidder	To be submitted during office hours with in 7 days from the date of opening of Financial bids. In case the last day happens to be closed holiday, the documents shall be submitted on the next working day.
10	Time & date of online opening of documents	15:30 Hours on 12/08/2026
11	Time & date of opening of Online Financial Bids.	15:30 Hours on 12/08/2026

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1. ***Only the enlisted contractors of class-III, IV and V by the Enlisting authority i.e. SDG (Chennai), ADG (Kochi), ADG (Bengaluru) and ADG (Hyderabad) shall tender within their tendering limit and tendering jurisdiction i.e. Tamil Nadu, Andaman & Nicobar, Puduchery, Kerala, Karnataka, Lakshadweep, Andhra Pradesh and Telangana of Southern Region (SR), as per the Rules for Enlistment of Contractors in CPWD, 2026. The enlisted contractors of class-II and above can tender within their tendering limit for works all over the country irrespective of jurisdiction of the enlisting authority. Further, enlisted contractors of any class shall also have to meet the other requirements of eligibility as per NIT conditions.***
2. 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.
3. Information and Instructions for bidders posted on website shall form part of bid document.
4. 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 free of cost.
5. 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 Banker's 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, Hyderabad Central Division-I, CPWD, Hyderabad**, receipt for deposition of original EMD to division office of any Executive Engineer (including NIT issuing EE/ DDH), CPWD and other documents as specified.
6. 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>
7. The intending bidder must have valid Class-III digital signature certificate with encryption key (combo type) to perform any operations / transactions on the e-tendering portal / website and the bidder should download and install the eMsigner on their system as per instructions available on download section of <https://etender.cpwd.gov.in>.
8. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
9. Contractor can upload documents in the form of JPG format and PDF format.
10. 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.
11. **The rates quoted by the contractor shall be for all floors & all heights unless otherwise specified. Nothing extra shall be paid on this account.**

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12. SCAFFOLDING

Wherever required for the execution of work, all the scaffolding shall be provided and suitably fixed, by the contractor. It shall be provided strictly with steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. Single scaffolding system is strictly prohibited and shall invite necessary action. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. Nothing extra shall be payable on this account unless otherwise specified in the corresponding items of work. It shall be ensured that no damage is caused to any structure due to the scaffolding.

13. In case of reduction in scope of work no claim on account of reduction in value of work, loss of expected profit, consequential overheads etc. shall be entertained.
14. 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.

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<u>Receipt of deposition of Original EMD</u>	
(Receipt No. date))	
1. Name of work	: Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.
2. NIT No.	: 32/2026-27/Hyd-I/Hyderabad (17/CE-HYD/2026-27)
3. Estimated Cost	: Rs. 1,24,85,142/- (Civil: Rs. 1,04,47,987/- & Electrical: Rs. 20,37,155/-)
4. Amount of Earnest Money Deposit	: Rs. 2,49,703/-
5. Last date of submission of bid	: Up to 15:00 Hours on 12/08/2026
1. Name of the contractor	:#
2. Form of EMD	:#
3. Amount of Earnest Money Deposit	:#
4. Date of submission of EMD	:#
EMD receiving Officer (EE / AE(P) / AE / AAO)	
Signature :	Name :
Designation :	Office Stamp :
(# to be filled by EMD receiving EE/DDH)	
1. The Engineer-in-Charge/DDH of any divisions/projects of CPWD or any other officer designated by CPWD Directorate from time to time, are authorized to receive the EMDs. These authorities should receive the original EMD for their tenders or tenders of any other division/projects. 2. The Authority receiving EMD in original form examines the EMD deposited by the bidder and issues 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 subordinate gazetted authority as authorized by the Engineer-in-Charge/DDH. 3. <u>If, the receipt is issued by any subordinate gazetted authority as authorized by the Engineer-in-Charge/DDH, then the Authorization letter issued by Engineer-in-Charge/DDH should also be uploaded / submitted online, else bid will be rejected.</u> 4. The authority receiving original EMD also intimates tender inviting authority about deposition of EMD by the agency by email/fax/telephonically. 5. The original EMD receiving authority releases 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. 6. The tender inviting authority calls for original EMD of the L-1 tenderer from EMD receiving authority immediately.	

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

- i) Insurance Surety Bond, Demand Draft/ Account Payee Banker's Cheque / FDR/ Bank Guarantee of any commercial Bank against EMD.
- ii) Enlistment Order of the Contractor.
- iii) 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 under taking 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".
- iv) Copy of receipt for deposition of original EMD issued from division office of any Executive Engineer (including NIT issuing EE/DDH), CPWD. **If, the receipt is issued by any subordinate gazetted authority as authorized by the Engineer-in-Charge/DDH, then the Authorization letter issued by Engineer-in-Charge/DDH should also be uploaded / submitted online, else bid will be rejected.**
- v) Undertaking on structural stability and soundness as per prescribed format Form 'F'. (If Form-F is signed by an authorized person of bidder / firm then Power of Attorney for submission of tender documents in favour of authorized person on a "Non-Judicial Stamp Paper of ₹200/-" duly notarized and attested shall be submitted and uploaded by the bidder at the time of bid submission.)
- vi) ERP Training Certificate issued through LMS (Learning Management System) of ERP or ERP Training Certificate issued by the competent authority of CPWD

Executive Engineer
Hyderabad-I, CPWD, Hyderabad
For & on behalf of President of India

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GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT
NOTICE INVITING TENDER CPWD-6 FOR e-TENDERING

1. Percentage rate bids are invited on behalf of President of India from approved and eligible contractors of CPWD for the work of **Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad..**
 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. 1,24,85,142/- (Civil: Rs. 1,04,47,987/- & Electrical: Rs. 20,37,155/-)**. This estimate, however, is given merely as a rough guide.
- 1.1.1 The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division which will deal with all matters relating to the invitation of bids. For composite bid, besides indicating the combined estimated cost put to bid, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.
- 1.2 Intending bidders is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority.
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. **The Percentage rate quoted by the tenderer shall be firm and inclusive of GST & all other applicable taxes, duties, cess, levies, Octroi etc. in respect of this contract and Government shall not entertain any claim whatsoever in this respect.**
3. The time allowed for carrying out the work will be **180 days** 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 specified below:-~~

(ii) ~~The architectural and structural drawing for the work is available.~~

or

~~The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work.~~
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.

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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. When bids are invited in three stage system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.
9. 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, HCD-I, CPWD, Hyderabad**) shall be scanned and uploaded on 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/DDH) 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.

A part of earnest money is acceptable in the form of bank guarantee also. In such case, minimum 50% of earnest money or Rs. 20 lac, 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 for a period of 90 days for single bid works and 180 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 within 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 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.

The bid submitted shall be opened at **15:30 Hours** on **12/08/2026**.

10. The bid submitted shall become invalid 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.

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11. The contractor whose bid is accepted will be required to furnish performance guarantee 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 in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. 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.
12. **The description of the work is as follows:**
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.
13. 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.
14. 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.
15. 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.
16. 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 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.

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17. 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 bid or engagement in the contractor's service.
18. The **bids** for the **work** shall remain open for acceptance for a period of **Thirty (30) days** from the date of opening of bids. Further
- 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.
 - 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.
 - 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.
19. 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:-
- 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.
 - Standard C.P.W.D. Form - 7 or other Standard C.P.W.D. Form as applicable.
- 20. For Composite Bids**
- 20.1.1 The Executive Engineer in charge of the major component will call bids for the composite 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.
- 20.1.2 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 **GCC 2023 Maintenance Works as amended / modified up to previous day of the last date of submission of the tender.**
- Part B:-** General / specific conditions, specifications and schedule of quantities applicable to major component of the work.
- Part C:-** 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.
- 20.1.3 The bidders must associate himself, with agencies as per NIT conditions.
- 20.1.4 The eligible bidders shall quote rates for all items of major component as well as for all items of minor components of work.
- 20.1.5 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

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awarded, the main contractor will have to enter into one agreement with EE incharge of major component and has also to sign two or more copies of agreement depending upon number of EE's/DDH incharge of minor components. One such signed set of agreement shall be handed over to EE/DDH incharge of minor component(s).

EE of major component will operate Part A and Part B of the agreement. EE/DDH incharge of minor component(s) shall operate Part- C alongwith Part A of the agreement.

- 20.1.6 Entire work under the scope of composite bid including major and all minor components shall be executed under one agreement.
- 20.1.7 Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works.
- 20.1.8 The main contractor has to associate agencies for specialized 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).
- 20.1.9 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.
- 20.1.10 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 incharge 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.
- 20.1.11 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. The CMB shall be maintained independently by Engineer-in-Charge of major and minor components.
- 20.1.12A. 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.
- 20.1.12B. Final bill of whole work shall be finalized and paid by the EE of major component. 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.
21. Integrity Pact: The contractor shall download the Integrity Pact, which is a part of tender documents, affix his signature in the presence of a witness, and upload the same while submitting online bids for all works of estimated cost put to tender equal or more than the threshold value given in Schedule-F. In the event of his failure to sign and upload the Integrity Pact along with other bid documents, his bid shall be rejected.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

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.9599841851, e-mail Id: eehcd1@gmail.com) or ERP help line no.18001803286 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. **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.2.80 lakh a price preference upto 5% **(with reference to the lowest valid price bid)** 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.2.80 lakh and upto and equal to estimated cost of Rs.6.40 lakh, the price preference upto 5% **(with reference to the lowest valid price bid)** 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.

The price preference upto 5% **(with reference to the lowest valid price bid)** may be allowed in favour of individual SC/ST contractor only. The above concession shall be allowed only after verification of the individual contractor's claim of belonging to SC/ST community.

Executive Engineer
Hyderabad-I, CPWD, Hyderabad
For & on behalf of President of India

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT

State : TELANGANA

Branch : B & R

Division : Hyderabad-I, CPWD, Hyderabad

Zone : SZ-II/CPWD/HYDERABAD

Percentage Rate Tender & Contract for Works

(A) Tender for the work of: **Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.**

- i) To be uploaded by **15:00** hours on **12/08/2026** to / upload at **<https://etender.cpwd.gov.in>**
- ii) To be opened in presence of tenderers who may be present at **15:30** hours on **12/08/2026** in the office of **the Executive Engineer, Hyderabad-I, CPWD, Hyderabad.**

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

TENDER

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

I/We hereby tender for the execution of the work specified 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 **Thirty (30) days** from the due date of its opening and not to make any modifications in its terms and conditions.

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 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 :
Witness :

Signature of Contractor
Postal Address

Address :
Occupation :

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

ACCEPTANCE

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

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

(a)

(b)

(c)

For & on behalf of the President of India

Signatures : _____

Designation : _____

Dated :

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

SCHEDULES**SCHEDULE 'A'**

Schedule of quantities (as per PWD-3) (Enclosed)

SCHEDULE 'D'

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

SCHEDULE 'E'

Reference to General Conditions of contract : **Reference to General Conditions of Contract (GCC EPC projects 2022 / GCC Maintenance Works 2023 / GCC Construction Works 2023)**

Applicable GCC is GCC 2023 Maintenance Works as modified & corrected upto previous day of the last date of submission of the tender.

Name of work: **Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.**

Estimated Cost of work : **Rs. 1,24,85,142/-**

Civil work : **Rs. 1,04,47,987/-**

Electrical work : **Rs. 20,37,155/-**

(i) Earnest money : **Rs. 2,49,703/- (to be returned after receiving performance guarantee)**

(ii) Performance Guarantee : (a) 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher).
(b) 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.

(iii) Security Deposit : 2.5% of the tendered value.

SCHEDULE 'F'**GENERAL RULES & DIRECTIONS:**

Officer inviting tender : Executive Engineer, Hyderabad-I, CPWD, Hyderabad

Price Preference to SC / ST individual contractor : **31/12/2027**
is valid upto

Definitions:

2 (vi) Engineer-in-Charge : Executive Engineer, Hyderabad-I, CPWD, Hyderabad.

2(viii) Accepting Authority : Executive Engineer, Hyderabad-I, CPWD, Hyderabad

2(x) Percentage on cost of materials and labour to cover all overheads and profits : 15% (Fifteen percent)

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

- 2(x)(b) Standard Schedule of Rates : **DSR 2023 adjusted to Cost Index of 118 with upto date correction slips**
- 2(xi) Department : Central Public Works Department
- 9(ii) Standard CPWD contract Form : Standard CPWD contract Form **GCC 2023 Maintenance Works**, CPWD form - 7 as modified & 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 fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	:	3 days
Clause 2		
Authority for fixing Compensation under Clause-2	:	Chief Engineer-Hyderabad, CPWD, Hyderabad or successor thereof.
Clause 2A		
Applicable clause 2 / clause 2A	:	Yes
Clause 5		
Number of days from the date of issue of the letter of acceptance for reckoning date of start	:	10 days or date of handing over the site whichever is later.

Mile stone(s) as per table given below:

Sl.No.	Description of Milestone (Financial)	Time allowed in days (from date of start)	Amount to be with-held in case of non achievement of milestone
1	1/8TH of Bided Amount.	45 days	In the event of not achieving the necessary progress as assessed from the running payments, 1.25% of the bided value of work will be withheld for failure of each milestone
2	3/8TH of Bided Amount.	90 days	
3	3/4TH of Bided Amount.	135 days	
4	Full Bided Amount.	180 days	

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Time allowed for execution of work	180 days
Authority to decide :	
1) Authority to convey the decision of shifting of milestone and extension of time	Executive Engineer, Hyderabad-I, CPWD, Hyderabad.
2) Authority to decide re-scheduling of milestones and extension of time	Chief Engineer-Hyderabad, CPWD, Hyderabad or successor thereof.
3) Shifting of date of start in case of delay in handing over of site	Chief Engineer-Hyderabad, CPWD, Hyderabad or successor thereof.

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	---	7 days
Part B	Portions with encumbrances	---	---
Part C	Portions dependent on work of other agencies	---	---

Clause 5	Applicable Clause 5
Clause 6	Computerised Measurement Book (CMB) / Electronic Measurement Book (EMB)
(i) Mode of Measurement	CMB
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	₹35.00 Lakhs
Clause 7A Whether clause 7A shall be applicable	Yes
Clause 10A List of testing equipments to be provided by the contractor at site lab	Any equipment required at site as per item of execution
Clause 10B(ii) Whether Clause 10 B(ii) shall be applicable	No
Clause 10C Component of labour expressed as percent of value of work	25%
Clause 10CC	Not Applicable

~~Schedule of component of other Materials, Labour etc. for price escalation.~~

~~Component of civil (except materials covered under clause 10CA)~~

~~/Electrical construction~~

~~Xm %~~

~~value of work.~~

~~Component of Labour~~

~~expressed as percent of total value of work.~~

~~Y %~~

~~Note : Xm % should be equal to (100) – (materials covered under clause 10CA~~

~~i.e. Cement, Steel, POL and other material specified in clause 10CA + Component of Labour)~~

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Clause 11 Specifications to be followed for execution of work	C.P.W.D. Specifications 2019 vol.I to vol.II with up to date correction slips.
Clause 12	
12.2 Deviation Limit beyond which clauses 12.2 shall apply for building work	Deleted
Clause 16 Competent Authority for deciding reduced rates	Chief Engineer-Hyderabad, CPWD, Hyderabad or successor thereof.
Clause 18 List of mandatory machinery, tools & plants to be deployed by the contractor at site.	T&P and machinery required at site as per site condition and as per item of execution.
Clause 19C authority to decide penalty for each default	Engineer-in-Charge
Clause 19D authority to decide penalty for each default	Engineer-in-Charge
Clause 19G authority to decide penalty for each default	Engineer-in-Charge
Clause 19K authority to decide penalty for each default	Engineer-in-Charge

Clause 25

(i) Conciliator:	:	Additional Director General, Region Hyderabad or successor thereof.
(ii) Arbitrator Appointing Authority	:	Chief Engineer-Hyderabad or successor thereof.
(iii) Place of Arbitration	:	Hyderabad

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	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause	
						Figures	Words
1.	Graduate Engineer Or Diploma Engineer	Civil + Electrical	Project Manager cum Planning / quality / site / billing Engineer	2 Years or 5 Years respectively	1 + 1	Rs.15,000/- per month per person	Rupees Fifteen Thousand Only. 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.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Clause 38

- i) (a) Schedule / statement for determining theoretical quantity of cement & bitumen on the basis of **DSR 2023 with upto date correction slips printed by C.P.W.D.**
- ii) Variations permissible on theoretical quantities:
- (a) Cement
 - For works with estimated cost put to tender not more than Rs.25 Lakh. **3% plus / minus**
 - For works with estimated cost put to tender more than Rs.25 Lakh. **2% plus / minus.**
 - (b) Bitumen All Works **2.5% plus only & nil on minus side**
 - (c) Steel Reinforcement and structural steel sections for each diameter, section and category. **2% plus/minus**
 - (d) All other materials **Nil**

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

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

NIT No : 32/2026-27/Hyd-I/Hyderabad (17/CE-HYD/2026-27)
Name of work : **Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI)
Facility at ARCI Campus, Balapur, Hyderabad.**

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). **Affidavit should be notarized in current date i.e. after the date of publication of NIT. Non-Judicial Stamp paper procured before the date of publication of NIT date will not be accepted and bid will be rejected. If Form-F is signed by an authorized person of bidder / firm then Power of Attorney for submission of tender documents in favour of authorized person on a "Non-Judicial Stamp Paper of ₹200/-" duly notarized and attested shall be submitted and uploaded by the bidder at the time of bid submission.**

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

(Guarantee offered by Bank to CPWD in connection with the execution of contracts)
Form of Bank Guarantee for Earnest Money Deposit / 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 invited bids under (NIT number) dated for..... (name of 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 contractor), (hereinafter called "the contractor") for compliance of his obligations in accordance with the terms and conditions of the said NIT.

OR**

- 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 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

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

or enforce any of the terms and conditions relating 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.

Date.....

Witnesses:

- | | |
|--------------------|----------------------|
| 1. Signature | Authorized signatory |
| Name and address | Name |
| | Designation |
| 2. Signature | Staff code no. |
| Name and address | Bank seal |

*Date to be worked out on the basis of validity period of 90 days where only financial bids are invited and 180 days for two/three bid system from the date of submission of tender.

**In paragraph 1, strike out the portion not applicable. Bank Guarantee will be made either for earnest money or for performance guarantee/security deposit/mobilization advance, as the case may be.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

(By Registered / Speed Post)

Sample letter for Acceptance of bid

No.

Dated,

To

(Name and Address of the contractor)

Subject:
 (Name of work as appearing in the tender for the work).

Dear Sir(s),

Your bid for the work mentioned above has been accepted on behalf of the President of India at your bided / negotiated bid amount of Rs.....(Rupees..... only) which is% below / above the estimated cost of Rs.....(Rupees..... only.)

1. You are requested to submit the performance guarantee Rs..... (Rupees..... only) within days of issue of this letter. The Performance Guarantee shall be in any of the prescribed form as provided in Clause – 1 of the General Condition of Contracts for CPWD Works and shall be valid up to
2. On receipt of prescribed performance guarantee, necessary letter to commence the work shall be issued, and site of work shall be handed over to you thereafter.
3. Please note that the time of (days / weeks / months) allowed for carrying out the above work shall be reckoned from the day from the date of issue of this letter.

Yours faithfully,

Executive Engineer
 For and on behalf of President of India
 Hyderabad-I, CPWD, Hyderabad.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

(By Registered / Speed Post)

Sample letter for Commencement of work

No.

Date:

To

(Name and Address of the contractor)

Subject: (Name of work as appearing in the bid for the work).

Ref: 1. Performance guarantee submitted by you vide your letter

No Dated for above work.

2. This office letter of intent/ acceptance of your tender issued vide No.....dt.....

Dear Sir(s)

1. You are requested to contact the Assistant Engineer (complete address) for taking possession of site and commencement of work.
2. You are requested to attend this office to complete the formal agreement within fifteen days from the date of issue of this letter.

Yours faithfully,

Executive Engineer
For & on behalf of President of India
Hyderabad-I, CPWD, Hyderabad

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

PART - B

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

BLANK

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

CONDITIONS OF CONTRACT

Definitions

1. The contract means the documents forming the bid and acceptance thereof and the formal agreement executed between the competent authority on behalf of the President of India and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
2. In the Contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:
 - i. The expression **works** or **work** shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
 - ii. The **site** shall mean the land/ or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
 - iii. The **contractor** shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
 - iv. The **President** means the President of India and his successors.
 - v. **Government** or **Government of India** shall mean the President of India.
 - vi. The **Engineer-in-Charge** means the Engineer Officer who shall supervise and be in-charge of the work and who shall sign the contract on behalf of the President of India as mentioned in Schedule 'F' hereunder.
 - vii. The term **Director General** includes Special Director General/Additional Director General/Chief Engineer.
 - viii. **Accepting Authority** shall mean the authority mentioned in Schedule F
 - ix. **Excepted Risk** are risks due to riots (Other than those on account of Contractor's employees), war(Whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Government's faulty design of works.
 - x. (a) **Market Rate** shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'F' to cover, all overheads and profits. **Provided that no extra overheads and profits shall be payable on the part(s) of work assigned to other agency(s) by the contractor as per terms of contract.**
 (b) Schedule(s) referred to in these conditions shall mean the relevant schedule(s) annexed to the tender documents or the standard Schedule of Rates of the government mentioned in Schedule 'F' hereunder, with the amendments thereto issued **previous day of the last date of submission of tender.**
 - xi. **Department** means CPWD or any department of Government of India which invites tenders on behalf of President of India as specified in schedule 'F'.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- xii. **District Specifications** means the Specifications followed by the State Government in the area where the work is to be executed.
- xiii. **Tendered value** means the value of the entire work as stipulated in the letter of award.
- xiv. **Date of commencement of work:** The date of commencement of work shall be the date of start as specified in schedule 'F' or the first date of handing over of the site, whichever is later, in accordance with the phasing if any, as indicated in the tender document.
- xv. **GST** shall mean Goods and Service Tax – Central, State and Inter State.
- 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.
- 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.
- xix. **Adolescent Person:** A Person who has completed his/her fourteenth year of age but has not completed his eighteenth year.
- xx. **Hazardous works:** Hazardous process/works are the works as defined in the clause (cb) of the Factory Act, 1948.

Scope and Performance

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

Works to be carried out:

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

Sufficiency of Tender

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

Discrepancies and Adjustment of Errors

- 8. The several documents forming the contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General conditions.

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- 8.1 In the case of discrepancy between the Schedule of Quantities, the Specifications and/ or the drawings, the following order of preference shall be observed :-
- i) Description of Schedule of Quantities.
 - ii) Particular Specification and Special condition, if any.
 - iii) Drawings.
 - iv) C.P.W.D. Specifications.
 - v) Indian Standard Specifications of B.I.S.
- 8.2 If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
- 8.3 Any error in description, quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.

Signing of Contract

9. 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) The notice inviting bid, all the documents including drawings, if any, forming the bid as issued at the time of invitation of bid and acceptance thereof together with any correspondence leading thereto.
 - (ii) Standard C.P.W.D. Form as mentioned in Schedule 'F' consisting of:
 - (a) Various standard clauses with corrections up to the date stipulated in Schedule 'F' along with annexure thereto.
 - (b) C.P.W.D. Safety Code.
 - (c) Model Rules for the protection of health, sanitary arrangements for workers employed by CPWD or its contractors.
 - (d) CPWD Contractor's Labour Regulations.
 - (e) List of Acts and omissions for which fines can be imposed.
 - (iii) No payment for the work done will be made unless contract is signed by the contractor.
- 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.

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General Rules & Directions

1. All work proposed for execution by contract will be notified in a form of invitation to tender pasted by publication in News papers or posted on website as the case may be. This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit and Performance guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.
2. In the event of 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 of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the **Indian Partnership Act 1932**.
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 bid as a firm in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.
4. The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.

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

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

In case of any such lowest contractor in his revised offer quotes rate of any item more than their respective original rate quoted already at the time of submission of tender, then such revised offer shall be treated invalid. Such case of revised offer of the lowest contractor or case of refusal to submit revised offer by the lowest contractor shall be treated as withdrawal of his tender before acceptance and 50% of his earnest money shall be forfeited.

In case all the lowest contractors those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each lowest contractors.

Contractor, whose earnest money is forfeited because of non-submission of revised offer, or quoting higher revised rate(s) of any item(s) than their respective original rate quoted already at the time of submission of his bid shall not be allowed to participate in the retendering process of the work.

- 4A. 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

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Quantities at Schedule-A, he will be willing to execute the work. The tender submitted shall be treated as invalid if :-

1. The contractor does not quote percentage above/below on the total amount of tender or any section/sub head of the tender.
2. 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.
3. 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 $\pm$ 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 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.

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, or CE of the zone 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.

5. The officer inviting tender or his duly authorized assistant, will open tenders in the presence of any intending contractors who may be present at the time.
6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.
7. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgment or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier.
8. In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct.

Where the rates quoted by the contractor in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s),

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word(s), and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.

However, if a tenderer quotes nil rates against each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer and earnest money deposited shall be forfeited.

9. 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.
10. 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.
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. This guarantee shall be in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee of any Commercial Bank.
(ii) The contractor whose tender is accepted will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 2.5% of the tendered amount 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 the shape of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks will 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 composite 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. The contractor shall submit list of works which are in hand (progress) in the following form:-

Name of work	Name of particulars of Divn where work is being executed	Value of work	Position of works in	Remarks
1.	2.	3.	4.	5.

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:-

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- 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.
18. **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 Chief 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.

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SPECIAL CONDITIONS AND PARTICULAR SPECIFICATIONS FOR CIVIL WORK

SPECIAL CONDITIONS

- 1) The work shall be carried out as per CPWD Specifications 2019 Vol. I & II with upto date correction slips, particular specifications, structural drawings and as per instruction of Engineer-in-charge.
- 2) Unless otherwise specified in the schedule of quantities, particular specifications or CPWD specifications (subject to the order or preference) the rates tendered by the tenderer shall be all inclusive and nothing extra over and above the schedule of quantity shall be payable on this account.
- 3) Wherever any reference to any Indian Standards occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued thereto or revisions thereof, if any, upto the date of receipt of tenders.
- 4) The Contractors are advised to inspect and examine the site and its surroundings and satisfy themselves with the nature of site, the means of access to the site, the constraints of space for stacking material / machinery, labour etc., constraints put by local regulations, if any, weather conditions at site, general ground / subsoil conditions etc. or any other circumstances which may affect or influence submission of their bids. The site is available for work. The contractor shall carry out survey of the work area, at his own cost, setting out the layout and fixing of alignment of the building as per architectural and structural drawings in consultation with the Engineer-in-charge and proceed further ensuring full structural continuity and integrated and monolithic construction. Any discrepancy between the architectural drawings and actual layout at site shall be brought to the notice of the Engineer-in-charge.
- 5) The Contractor shall, if required by him, before submission of the bid, inspect the drawings in the Office of the **Executive Engineer, Hyd-I, CPWD, Hyderabad**. The department shall not bear any responsibility for the lack of knowledge and also the consequences, thereof to the Contractor. The information and data shown in the drawings and mentioned in the bid documents have been furnished, in good faith, for general information and guidance only. The Engineer-in-Charge, in no case, shall be held responsible for the accuracy thereof and/or interpretations or conclusions drawn there from by the Contractor and all consequences shall be borne by the Contractor. No claim, whatsoever, shall be entertained from the Contractor, if the data or information furnished in bid document is different or in-correct otherwise or actual working drawings are at variance with the drawings available for inspection or attached to the bid document. It is presumed that the Contractor shall satisfy himself for all possible contingencies, incidental charges, wastages, bottlenecks etc. likely during execution of work and acts of coordination, which may be required between different agencies. Nothing extra shall be payable on this account.
- 6) The nomenclature of the item given in the schedule of quantities gives in general the work content but is not exhaustive i.e. does not mention all the incidental works required to be carried out for complete execution of the item of work. The work shall be carried out, all in accordance with true intent and meaning of the specifications and the drawings taken together, regardless of whether the same may or may not be particularly shown on the drawings and/or described in the specifications, provided that the same can be reasonably inferred there from may be several incidental works, which are not mentioned in the nomenclature of each item but will be necessary to complete the item in all respect. All these incidental works / costs which are not mentioned in item nomenclature but are necessary to complete the item shall be deemed to have been included in the rates quoted by the contractor for various items in the schedule of quantities. No adjustment of rates shall be made for any variation in quantum of incidental works due to variation / change in actual working drawings. Also, no adjustment of rates shall be made due to any change in incidental works or any other deviation in such element of work

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(which is incidental to the items of work and are necessary to complete such items in all respects) on account of the directions of Engineer-in-Charge. Nothing extra shall be payable on this account.

- 7) The contractor shall give to the local body, 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 fees, taxes and charges which may be leviable on account of these operations in executing the contract. Proper temporary barricading by fencing with G.I. sheets, shall be carried out by the contractor at the start of work as per direction of Engineer-in-charge in order to physically define the boundaries of the plot for restricted entry to only those involved in the work and also to prevent any accidents, at the same time without causing any inconvenience to the traffic and the users of the handed over buildings in the adjacent plots. It shall be done by providing, erecting, maintaining temporary protective barricading of minimum 3.0 meters in height, made in panels, with each panel having MS frames / MS scaffolding pipes of suitable size and stiffness, with 24 gauge thick GI corrugated sheet or suitably stiffened plain GI sheet fixed on frames. Such panels shall be suitably connected to each other for stability with nuts and bolts, hooks, clamps etc. and fixed firmly to the ground at about 2 metres spacing, for the entire duration till completion of the work. He shall also provide and erect temporary protective barricades within the plot, if required, to prevent any accident. It shall be dismantled and taken away by the Contractor after the completion of work at his own cost with the approval of the Engineer-in-charge. Nothing extra shall be payable on this account.
- 8) The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night. In case of any accident to labours/ contractual staff the entire responsibility will rest on the part of the contractor and any compensation under such circumstances, if becomes payable, shall be entirely borne by the contractor.
- 9) The work shall generally be carried out in accordance with the “CPWD Specifications 2019 Vol.I & II with upto date Correction slips, additional/ Particular Specifications, Architectural/ Structural drawings and as per instructions of Engineer-in charge. Any additional item of the work, if taken up subsequently, shall also confirm to the relevant CPWD Specifications as mentioned above. Working (both Architectural and Structural) drawings will be released progressively to the contractor commensurate to the construction schedule approved by Engineer-in-charge.
- 10) The several documents forming the tender are to be taken as mutually complementary to one another. Detailed drawings shall be followed in preference to small scale drawings and figured dimensions in preference to scale dimensions.
- 11) In case of any difference or discrepancy between the description of items as given in the schedule of quantities, particular specifications for individual items of work (including special conditions) and I.S. Codes etc., the following order of preference shall be observed.
 - i. Description of items as given in Schedule of quantities
 - ii. Particular specifications
 - iii. Special conditions
 - iv. Tender drawings attached
 - v. CPWD Specifications including correction slips issued upto the last date of uploading/ submission of tender.
 - vi. General Conditions of Contract for CPWD works including correction slips issued upto the last date of uploading/submission of tender.
 - vii. Indian Standards Specifications of B.I.S.
 - viii. ASTM, BS, or other foreign origin codes mentioned in tender document.
 - ix. Manufacturer’s specifications and as decided by the Engineer-in-Charge.
 - x. Sound Engineering practices or well established local construction practices.

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- 12) The works to be governed by this contract shall cover delivery and transportation upto destination, safe custody at site, insurance, erection and commissioning of the E&M services of the entire work.
- 13) The work shall be carried out in accordance with the approved Architectural structural drawings & service 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 structural drawings, Specifications etc. issued for the work and satisfy himself that the information available from there is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-charge before execution of the work. 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 by the department on this account.
- 14) 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.
- 15) Unless otherwise provided in the Schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing extra shall be payable to him on this account. Payment for centering, shuttering, however, if required to be done for floor heights greater than 3.5m shall be admissible at rates arrived in accordance with clause 12 of the agreement if not already specified.
- 16) The contractor shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at suitable place. No stacking of materials or excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. The stacking shall take place as per stacking plan. However, if any change is required, the same shall be done with the approval of Engineer-in-Charge.
- 17) The Contractor shall bear all incidental charges for Cartage, storage and safe custody of materials, if any, issued by department as well as to those materials also arranged by the contractor.
- 18) Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the execution of work and nothing extra shall be payable or extra cement considered in consumption on this account.
- 19) The contractor shall make his own arrangements for water and for obtaining electric connections if required and make necessary payments directly to the State Govt. departments concerned. Contractor shall get the water tested from laboratory approved by the Engineer-in-charge at regular interval as per the CPWD Specifications 2019. All expenses towards collection of samples, packing, transportation etc. shall be borne by the contractor.

Work shall normally be done in a single shift/day. However if the work is required to be executed in more than one shift in a day for meeting the time lines, the Contractor with prior approval of the Engineer-in-charge, shall have to make necessary arrangements for the same and all costs towards the same shall be deemed to have been included in the quoted rates.

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20) **PREVENTION OF NUISANCE AND POLLUTION CONTROL**

The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties from pollutants like smoke, dust, noise. The contractor shall use such methodology and equipment so as to cause minimum environmental pollution of any kind during construction and minimum hindrance to road users and to occupants of the adjacent properties or other services running adjacent/near vicinity. The contractor shall make good at his cost and to the satisfaction of the Engineer-in-charge, any damage to roads, paths, cross drainage works or public or private property whatsoever caused due to the execution of the work or by traffic brought thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor, without any reservation, entirely to the satisfaction of the Engineer-in-charge.

- 21) Utmost care shall be taken to keep the noise level to the barest minimum so that no Disturbance as far as possible is caused to the nearby occupants/users of building(s), if any.

22) **SECURITY AND TRAFFIC ARRANGEMENTS**

In the event of any restrictions being imposed by the Security agency of Client Department / CPWD/ Hyderabad Traffic or any other local authority having jurisdiction in the area on the working or movement of labour/ material, the contractor shall strictly follow such restrictions and nothing extra shall be payable to him on such accounts. The loss of time on these accounts, if any, shall have to be made up by augmenting additional resources whatever required.

For the safety of all labour directly or indirectly employed in the work the contractors shall, in addition to the provision of CPWD safety code and directions of the Engineer-in-Charge, make all arrangements to provide facility as per the provision of Indian Standard Specifications (Codes) listed below & nothing extra shall be paid on this account.

i.	IS 3696 Part I	Safety Code for scaffolds and ladders.
ii.	IS 3696 Part II	Safety Code for scaffolds and ladders Part II ladders.
iii.	IS 764	Safety Code for excavation work.
iv.	IS 4138	Safety Code for working in compressed air.
v.	IS 7293	Safety Code for working with construction machinery.
vi.	IS 7969	Safety Code for storage and handling of building materials.
vii.	IS 4130	Safety code for demolition of buildings.

- 23) The contractor is required to make his own arrangements to provide huts for labourers as is acceptable to local bodies /client and nothing extra shall be paid on this account. He shall make his own arrangements for stores, field office etc. Before bidding, he shall visit the site and assess the manner in which he is able to arrange the above facilities. The Engineer-in-charge shall in no way be responsible for any delay on this account and no claim, whatsoever, on this account shall be entertained.
- 24) No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and the work for which payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P/Machinery brought to the site by him.

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- 25) The contractor shall construct suitable godowns, yard at the site of work for storing all other materials so as to be safe against damage by sun, rain, damages, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose at his cost.
- 26) All materials obtained from contractor shall be got checked by the representative of Engineer-in-Charge on receipt of the same at site before use.
- 27) The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including all equipments, services provided by him against pilferage and breakage during the period of Installations and thereafter till the building is physically handed over to **the Client Department**. No extra payment shall be made on this account and no claim shall be admissible on this account.
- 28) The contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by Collector / Telangana State Govt. and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The contractor shall also adhere to all traffic restrictions notified by the local authorities. All statutory taxes, levies, charges (including water and sewerage charges, charges for temporary service connections and / or any other charges) payable to such authorities for carrying out the work, shall be borne by the Contractor. The water charges (for municipal water connection as well as tanker water) shall be borne by the contractor. Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent sewerage charges shall be borne by the contractor. The clause 31A of the General conditions of contract for CPWD works is not applicable to the tender. The Contractor shall arrange to give all notices as required by any statutory / regulatory authority and shall pay to such authority all the fees that is required to be paid for the execution of work. He shall protect and indemnify the Department and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts. The fee payable to statutory authorities for obtaining the various permanent service connections and Occupancy Certificate for the building shall be borne by the Department.
- 29) For works below ground level the contractor shall keep that area free from water. If dewatering or bailing out of water is required the contractor shall do the same at his own cost and nothing extra shall be paid except otherwise provided in the items of Schedule of Quantities.
- 30) The contractor shall make all necessary arrangements for protecting works already executed from rains, fog or likewise extreme weather conditions and for carrying out further work, during monsoon including providing and fixing temporary shelters, protections etc. Nothing extra shall be payable on this account and also no claims for hindrance shall be entertained on this account.
- 31) The contractor will take reasonable precautions to prevent his workman and employees from removing and damaging any flora (plant/vegetation) from the project area.

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32) SETTING OUT

- (i) The contractor shall carry out survey of the work area, at his own cost, setting out the layout of building in consultation with the Engineer-in-charge & proceed further. Any discrepancy between in the drawings and actual layout at site shall be immediately brought to the notice of the Engineer-in-charge. It shall be responsibility of the contractor to ensure correct setting out of alignment. Total station survey instruments only shall be used for layout, fixing boundaries, and centre lines, etc., Nothing extra shall be payable on this account.
- (ii) The contractor shall establish, maintain and assume responsibility for grades, lines, levels and benchmarks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions etc to the Engineer-in-charge before commencing work. Commencement of work shall be regarded as the contractor's acceptance of such grades, lines, levels, and dimensions and no claim shall be entertained at a later date for any errors found.
- (iii) If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer-in-charge. Nothing extra shall be payable on this account.
- (iv) Though the site levels are indicated in the drawings the Contractor shall ascertain and confirm the site levels with respect to benchmark from the concerned authorities. The Contractor shall protect and maintain temporary/ permanent benchmarks at the site of work throughout the execution of work. These benchmarks shall be got checked by the Engineer-in-Charge or his authorized representatives. The work at different stages shall be checked with reference to bench marks maintained for the said purpose. Nothing extra shall be payable on this account.
- (v) The approval by the Engineer-in-charge, of the setting out by the contractor, shall not relieve the Contractor of any of his responsibilities and obligation to rectify the errors/ defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.
- (vi) The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignments, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the Contractor at his own cost to the entire satisfaction of the Engineer-in-charge.
- (vii) The amount quoted by the Contractor are deemed to be inclusive of site clearance, setting out work (including marking of reference points, center lines of buildings), construction and maintenance of reference bench mark(s), taking spot levels, construction of all safety and protection devices, barriers, barricading, signage, labour safety, labour welfare and labour training measures, preparatory works, working during monsoon, working at all depths, height and location etc. and any other incidental works required to complete this work. Nothing extra shall be payable on this account.

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33) TOOLS AND PLANTS

The contractor should deploy constructions equipment required for the proper and timely execution of the work. Nothing extra shall be paid on this account.

No tools and plants including any special T&P etc. shall be supplied by the department and the contractor shall have to make his own arrangements at his own cost. No claim of hindrance (or any other claim) shall be entertained on this account.

34) SCAFFOLDING

Wherever required for the execution of work, all the scaffolding shall be provided and suitably fixed, by the contractor. It shall be provided strictly with steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. Single scaffolding system is strictly prohibited and shall invite necessary action. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. Nothing extra shall be payable on this account **unless otherwise specified in the corresponding items of work**. It shall be ensured that no damage is caused to any structure due to the scaffolding.

- 35) The contractor shall do proper sequencing of the various activities by suitably staggering the activities so as to achieve early completion. The contractor is to deploy adequate equipment, machinery and labour as required for the completion of the entire work within the stipulated period as specified. Also ancillary facilities shall be provided by contractor commensurate with requirement to complete the entire work within the stipulated period. Nothing extra shall be payable on this account **unless otherwise specified in the corresponding items of work**. Adequate number/sets of equipment in working condition, along with adequate stand-by arrangements, shall be deployed during entire construction period. It shall be ensured by the contractor that all the equipment, Tools & Plants, machineries etc. provided by him are maintained in proper working condition at all times during the progress of the work and till the completion of the work. Further, all the constructional tools, plants, equipment and machineries provided by the contractor, on site of work or his workshop for this work, shall be exclusively intended for use in the construction of this work and they shall not be shifted/ removed from site without the permission of the Engineer-in-charge.

36) ROYALTY

Royalty/Seigniorage Fee at the prevalent rates shall be deducted from the Bills payable to the Contractor, as per G.O. No. Ms.No. 67 dated 26.09.2015 issued by Industries and Commerce (M.I) Department, Government of Telangana state and issued by DM&G, Hyderabad Lr No 1086/DMF/2016 dated 22.04.2016 (copy enclosed along with tender document), or as per consequent/latest G.O. if any, issued by the Government of Telangana State, on all materials such as boulders, metals, all sizes stone aggregates, brick aggregates, coarse and fine sand, moorum, river sand/ Manufactured sand, gravels and bajri etc. collected by him for the execution of the work. The rates quoted by the contractor shall be inclusive of such Royalty and taxes etc. And nothing extra shall be payable on this account.

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37) **PRESERVATION AND CONSERVATION MEASURES**

- (i) Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services, if any, encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. In case the same are to be removed and diverted, expenditure incurred in doing so shall be payable to the contractor. The contractor shall work out the cost, get the same approved by Engineer-in-charge before taking up actual execution. 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.
- (ii) All fossils, coins, articles of value of antiquity, structures and other remains or things of geological or archaeological interest discovered on project location during excavation/ construction shall be the property of the Government, and shall be dealt with as per provisions of the relevant Act..The contractor will take reasonable precaution to prevent his workmen or any other persons from removing and damaging any such article or thing. He will, immediately upon discovery thereof and before removal acquaint the Engineer-in-charge of such discovery and carry out the official instructions of Engineer-in- charge for dealing with the same, till then all work shall be carried out in a way so as not to disturb/damage such article or thing.

38) **RESPONSIBILITY OF CONTRACTOR**

- (i) He shall protect and indemnify the **CPWD** and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts.
- (ii) The fee payable to statutory authorities for obtaining the various permanent service connections and Building Use Certificate for the building if any shall be borne by the **Client**.
- (iii)The Contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify the **CPWD** from any and all damages and claims that may arise on any account. The Contractor shall indemnify the Department **CPWD** against all claims in respect of patent rights, royalties, design, trademarks- of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the Department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.

39) **CO-OPERATION WITH OTHER CONTRACTORS/SPECIALIZED AGENCIES/ SUB-CONTRACTORS**

- i) The contractor shall take all precautions to adhere by the environmental related restrictions imposed by any statutory body having jurisdiction over work site as well as prevent any pollution of streams, ravines, river bed and waterways. All waste or superfluous materials shall be transported by the contractor, entirely to the satisfaction of the Engineer-in-charge and disposed at designated places only. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claims whatsoever on account of site constraints mentioned above or any other site constraints, lack of public transport, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated herein, shall be entertained from the contractor.

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Therefore, the tenderers are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.

- ii) The contractor shall cooperate with and provide the facilities to the sub-contractors and other agencies working at site for smooth execution of the work. The contractor shall indemnify the CPWD against any claim(s) arising out of any disputes. The contractor shall:
 - (a) Allow use of scaffolding, toilets, sheds etc.
 - (b) Properly co-ordinate their work with the work of other contractors.
 - (c) Provide control lines and benchmarks to his sub-contractors and the other Contractors.
 - (d) Provide electricity and water at mutually agreed rates.
 - (e) Provide hoist and crane facilities for lifting material at mutually agreed rates.
 - (f) Co-ordinate with other contractors for leaving inserts, making chases, alignment of services etc. at site.
 - (g) Adjust work schedule and site activities in consultation with the Engineer-in-Charge and other Contractors to suit the overall scheduled completion.

Resolve the disputes with other contractors/ sub-contractors amicably and the Engineer-in-charge shall not be made an intermediary or an arbitrator.
- iii) The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines viz. water supply, drainage, rain water harvesting, electrical, fire fighting, information technology, communication & electronics and any other services.
- iv) Other Associated agencies may also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works at the time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
- v) The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-In-Charge and shall as far as possible arrange his work and shall place and dispose 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 in a proper coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.

40) **SUPERVISION OF WORK**

The contractor shall depute Site Engineer & skilled workers as required for the work. He shall submit organization chart along with details of Engineers and supervisory staff. It shall be ensured that all decision making powers shall be available to the representatives of the contractor at work site itself to avoid any likely delays on this account. The contractor shall also furnish list of persons for specialized works to be executed for various items of work. The contractor shall identify and deploy key persons having qualifications and experience in the similar and other major works, as per the field of their expertise. If during the course of execution of work, the Engineer-in-charge is of the opinion that the deployed staff is not sufficient or not well experienced; the contractor shall deploy more staff or better-experienced staff at site as mentioned in the bid document to complete the work with quality and within stipulated time limit.

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41) **SPECIALIZED AGENCIES**

Any specialized component of work in the project, for which expertise is lacking with the main contractor the same, shall be carried out in association with a specialized agency to be approved by the Engineer-in-charge.

42) **RATES**

(i) The amount quoted by the Contractor are deemed to be inclusive of site clearance, setting outwork, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers, working during monsoon or odd season, working beyond normal hours, working at all depths heights, lead, lift, levels and location and any other unforeseen but essential incidental works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.

(ii) **The amount quoted by the tenderer is inclusive of all taxes and levies including GST and nothing extra shall be payable.**

(iii) Ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc .required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates from local bodies etc., protection works, and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in **amount** quoted by the Contractor. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement and other storage, steel fabrication yard, site laboratory, water tank, etc.

For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, not withstanding the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them. All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.

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43) SAFETY MEASURES

- i) **WARNING/ CAUTION BOARDS:** All temporary warning / caution boards / glow signage display such as “Construction Work in Progress”, “Keep Away”, “No Parking”, Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in-Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer - in - Charge. Nothing extra shall be payable on this account.
- ii) **SIGN BOARDS:** The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, Client/Owner, Engineer-in-charges, Structural Consultants, Department etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies within 15 days from issue of award letter. Nothing extra shall be payable on this account. In case of non compliance/delay in compliance in this, a penalty @ Rs. 500/- per day will be imposed which will be recovered from the immediate next R/A Bill of the Contractor.
- iii) **Necessary protective and safety equipment's such as helmet, safety shoes, gloves etc shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and to be used at site.**
- iv) No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer-in-Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

44) QUALITY ASSURANCE

- i) Contractor shall have to engage well-experienced skilled labour and deploy modern T&P and other equipment to execute the work. For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, not with-standing the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them. All material shall only be brought at site as per program finalized with the Engineer-in- Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
- ii) 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 & contractor shall be bound to replace / remove such sub-standard / defective work immediately. If any material, even though approved by Engineer-In-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.

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- iii) In addition to the supervision of work, CPWD Engineers/Client department officials shall also be carrying out regular and periodic inspection of the ongoing activities in the work and deficiencies, shortcomings, inferior workmanship pointed out by them shall be communicated by CPWD engineers to the contractor. Upon receipt of instructions from Engineer in Charge these are also to be made good by necessary improvement, rectification, replacement upto his complete satisfaction. Special attention shall be paid towards line and level of internal and external plastering, exposed smooth surface of RCC members by providing fresh shuttering plates, rubberized linings to all the shuttering joints, accurate joinery work in wooden doors and windows, thinnest joints in stone/ tiling / cladding work, non-hollowness in floor and dado tiles work, protection of scratches over flooring by impounding layer of plaster of Paris, water tight pipe linings, absence of hollow vertical joints in brick masonry, proper compaction of filled up earth etc. to achieve an Institution of International standards and up keeping of quality assurance shall be of paramount importance, as such.
- iv) The contractor shall at his own cost submit samples of all materials sufficiently in advance and obtain approval of Engineer-in-Charge. The materials to be used in actual execution of the work shall strictly conform to the quality of samples approved by the Engineer-in-Charge and nothing extra shall be paid on this account. The acceptance of any sample or material on inspection shall not be a bar to its subsequent rejection, if found defective.
- v) All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-charge which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer-In-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per suggested list of brand names given in the tender document / particular specifications for approval of Engineer-In-Charge. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer-In-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval of Engineer-In-Charge.
- vi) The Contractor shall procure and provide all the materials from the manufacturers / suppliers as per the list attached with the tender documents, as per the item description and particular specifications for the work. The equivalent brand for any item shall be permitted to be used in the work, only when the specified make is not available. This is, however, subject to documentary evidence produced by the contractor for non-availability of the brand specified and also subject to independent verification by the Engineer-in-Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards equivalent make of the material shall be final and binding on the Contractor. No claim, whatsoever, of any kind shall be entertained from the Contractor on this account. Nothing extra shall be payable on this account. Also, the material shall be procured only after written approval of the Engineer-in-Charge. All materials whether obtained from Govt. stores or otherwise shall be got checked by the Engineer-in-Charge or his authorized supervisory staff on receipt of the same at site before use.

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- vii) The contractor has to establish field laboratory at site including all necessary equipment for field tests as given in Schedule 'F'. All the relevant and applicable standards and specifications shall be made available by the contractor at his cost in the field laboratory. The contractor shall designate one of his technical representatives as Quality Assurance Engineer, who shall be responsible for carrying out all mandatory field/laboratory tests. The contractor shall also provide adequate supporting staff at his cost for carrying out field tests, packaging and forwarding of samples for outside laboratory tests and for maintaining test records.
- viii) The tests, as necessary and where no field laboratory facilities are available, shall be conducted in the laboratory approved by the Engineer-in- Charge. For materials for which field testing equipment is established at site, for those materials 90% of total tests shall be done at the laboratory established at site by contractor and remaining in the reputed laboratories approved by Engineer-in-charge. The samples shall be taken for carrying out all or any of the tests stipulated in the particular specifications and as directed by the Engineer-in-Charge or his authorized representative.
- ix) All the registers of tests carried out at Construction Site or in outside laboratories and all material at site (MAS) registers including cement register shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-charge. 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/AEE/EE. Contractor shall be responsible for safe custody of all the registers.
- x) The Contractor shall at his own risk and cost make all arrangements and shall provide all such facilities including material and labour, the Engineer-in-Charge may require for collecting, preparing, forwarding the required number of samples for testing as per the frequency of test stipulated in the contract specifications or as considered necessary by the Engineer-in-Charge, at such time and to such places, as directed by the Engineer-in-Charge. Nothing extra shall be payable for the above.
- xi) The Contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding on the Contractor. The Contractor or his authorized representative shall remain in contact with the Engineer-in-Charge or his authorized representative associated for all such operations. No claim of payment or claim of any other kind, whatsoever, shall be entertained from the Contractor.
- xii) **The cost of test required for all the materials shall be borne by the Contractor, other than those specifically elsewhere mentioned in the NIT.**

However the cost of tests for the following materials/tests shall be borne by the Contractor if the test results do not conform to CPWD Specifications /relevant BIS codes or by the Department if the test results conform to CPWD Specifications/relevant BIS codes.

- 1) Fire check/Retardant Doors,
- 2) Wind Pressure Test in structural glazing work.
- 3) Tests like X-Ray, Dye-Penetration for structural welding.
- 4) Ascertaining the classification of Wood/Timber.
- 5) **Ultrasonic Pulse Velocity Method of test for RCC.**

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In case of concrete and reinforced concrete work also the contractor shall be required to make arrangement for carrying out compression strength tests at his own cost. He shall render all assistance for the preparation of cubes, safe custody of the same, proper curing and carriage upto the laboratory where the test is to be performed.

- xiii) All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions before covering and their measurements in computerized measurement book duly test checked shall be deposited with Engineer in charge or his authorized representative, prior to hiding these items.
- xiv) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should confirm to bylaws and municipal body / corporation where CPWD Specifications are not available. The contractor should engage licensed plumbers for the work and get the materials (fixtures/fittings) tested by the Municipal Body/Corporation authorities wherever required at his own cost.
- xv) The contractor shall have to execute guarantee bonds in respect of water proofing works, Aluminium doors windows & ventilators work, Curtain/Structural Glazing works as per Performa enclosed.
- xvi) 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, fire pumps, wet riser / fire fighting equipments, fire sprinklers etc. 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.

45) SUBMISSION AND DOCUMENTATION

- i) The contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc under various labour laws and other regulations applicable to the works, at his site office. He should also keep at site at least one set of latest version of BIS Codes and other relevant codes at site and produce the same if asked for by Engineer-In-charge. In case of non-compliance, these codes will be purchased from the market and actual cost of purchase will be recovered from the next RA Bill of the contractor.
- ii) The contractor shall make available four (04) sets of completed drawings, “As Built Drawings” along with literatures, manuals, warranty certificates etc. of various installed fittings, fixtures and equipment for the completed projects. This shall be the prerequisite for payment of final bill.
- iii) The Contractor shall make available three (03) sets of all drawings of internal and external services i.e. Water Supply, Sanitary line and Drainage lines. This shall be the prerequisite for payment of final bill. These drawings shall have the following information:
 - (a) Run off for all piping and their diameters including soil, waste pipes and vertical stacks.
 - (b) Ground and invert level of all drainage pipes together with locations of all manholes and connections, upto outfall.
 - (c) Run off for all water supply lines with diameters location of control valves, access panels etc.

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- iv) The contractor will submit computerized measurement sheet for the work carried out by him for making payment as per Clause – 6 of the CPWD General Conditions of Contract **GCC 2023 Constructions works** (with correction slips upto the last date of submission of tender). For casting of RCC members and other hidden items the corrected and duly test checked measurement sheets of reinforcement or that of other hidden items shall be deposited with Engineer in charge or his authorized representative, before casting of RCC or other hidden items. The delay in submission of corrected and duly checked measurement sheet may, therefore, delay casting of RCC or execution of hidden item for which no hindrance shall be recorded.
- v) To avoid delay, contractor should submit all samples well in advance so as to give timely orders for procurement.

46) **PROJECT PROGRAM CHART:**

The Contractor shall prepare an integrated program chart within 15 (**Fifteen**) days of issue of acceptance letter including civil as well as E & M activities 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 program within the stipulated period and submit the same for approval of the Engineer-In-Charge within fifteen days of the award of the work. These shall be submitted by the contractor through electronic media besides forwarding hard copies of the same. The integrated program chart so submitted should not have any discrepancy with the physical milestones attached in the contract agreement.

- i) Apart from the above integrated program chart, the contractor shall be required to submit fortnightly progress report of the work in a computerized form on 1st and 16th of every month. The progress report shall contain the following, apart from whatever else may be required as specified above:
- ii) Construction schedule of the various components of the work through a bar chart for the next two fortnights (or as may be specified), showing the micro-milestone/milestones, targeted tasks (including material and labour requirement) and upto date progress. Digital photographs showing all the part of construction site along with video of executions of different items whenever required in soft copy has to be submitted in every fortnightly progress report.
- iii) Progress chart of the various components of the work that are planned and achieved, for the fortnight as well as cumulative upto the fortnight under reckoning, with reason for deviations, if any in a tabular format.
- iv) Plant and machinery statement, indicating those deployed in the work.
- v) Man-power statement indicating:
 - Individually the names of all the staff deployed on the work, along with their designations.
 - No. of skilled workers (trade wise) and total no. of unskilled workers deployed on the work and their location of deployment i.e. blocks.
- vi) Financial statement, indicating the broad details of all the running account payment received upto date, such as gross value of work done, advances taken, recoveries effected, amount withheld, net payments details of advance payment received, extra/substituted/deviation items if any, etc.

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Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

47) TEMPORARY WATER/ ELECTRICITY/ TELEPHONE CONNECTION

- i) 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.
- ii) 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. Nothing extra shall be payable on this account.
- iii) 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 & electric 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.

48) CLEANLINESS OF SITE

- (i) The contractor shall not stack building material/ malba/ muck on the land or road of the local development authority or on the land owned by others, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer-in-charge, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the contractor. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material / malba as stated above, the Contractor shall be liable to pay the stacking charges/penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in- Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.
- (ii) The contractor shall take instructions from the Engineer-In-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.
- (iii) The site of work shall be always kept clean due to constraints of space and to avoid any nuisance to the users of buildings in the adjacent plots. The Contractor shall take all care to prevent any water- logging at site. The waste water, slush etc. shall not be allowed to be collected at site. It may be directly pumped into the creek with prior approval of the concerned authorities. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. All the fees/charges in this regard shall be borne by the Contractor. Nothing extra shall be payable on this account.

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49) **INSPECTION OF WORK**

In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by Senior Officers of CPWD/CTE/ TPQA and their representatives .The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer-in-charge or other officers as stated above to visit the works shall have been given to the contractor, either himself be present to receive the orders and instructions or have a responsible representative duly accredited in writing, to be present for that purpose.

50) **SUBMISSION OF AS BUILT DRAWINGS**

Final as built drawings for all the services, after completion of the project.

51) **REFUND OF PERFORMANCE GUARANTEE**

The performance guarantee for the work shall be refunded to the contractor soon after the completion of the entire construction works under this agreement and recording of the completion certificate for such agreement and submission of completion plans as constructed and subjected to submission of performance guarantee for Schedule II items as mentioned above.

52) **DEFECT LIABILITY PERIOD (Refund of Security Deposit)**

The defect liability / maintenance period shall be **12 months** after the date of completion work for this contract agreement. The Security Deposit shall be released after the defect liability period of **12 months** after completion of entire project work and for this the contractor shall have to produce a certificate stating that no defects are pending for rectification from the Engineer-in-Charge, but subject to other provisions specified elsewhere in the contract agreement.

53) **GENERAL CLARIFICATIONS**

- i) Wherever any reference to any Indian Standards occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued thereto or revisions thereof, if any, upto the previous day of last date of submission of bids.
- ii) Unless otherwise specified in the schedule of quantities, the amount quoted shall be considered, as inclusive of pumping out or bailing out water, if required throughout the construction period for which no extra payment shall be made. This shall also include water encountered from any source such as rains, floods, sub soil water table being high and/or due to any other cause whatsoever.
- iii) All stone aggregate and stone ballast shall be of hard stone variety to be obtained from approved quarries.
- iv) The sand, Coarse/manufacture sand/Pulverized Stone sand/ crushed stone sand should be obtained from approved sources. The same shall be clean and sharp angular grit type. The sand shall be screened before using, if required. If the sand brought to site is dirty, it must be washed in clean water to bring the sand to the required specifications. Nothing extra shall be payable on this account.
- v) The amount quoted for this work, shall unless clearly specified otherwise, include cost of all operations and all inputs of labour, material, T & P, scaffolding, wastages, watch and ward, other inputs, all incidental charges, all taxes, cess, GST, duties, levies etc. required for execution of the work.

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54) **DE-WATERING**

- i) De-watering required, if any, shall be done conforming to BIS Code IS: 9759 (guide lines for de-watering during construction) and / or as per the specifications approved by the Engineer-in-Charge. Design of an appropriate and suitable dewatering system shall be the Contractor's responsibility. Such scheme shall be modified / augmented as the work proceeds based on fresh information discovered during the progress of work, at no extra cost. At all times during the construction work, efficient drainage of the site shall be carried out by the Contractor and especially during the laying of plain cement concrete, taking levels etc. The Contractor shall also ensure that there is no danger to the nearby properties and installations on account of such lowering of water table. If needed, suitable precautionary measures shall be taken by the Contractor. Also the scheme of dewatering adopted shall have adequate built in arrangement to serve as stand-by to attend to repair of pumps etc. and disruption of power / fuel supply. Nothing extra shall be payable on this account.
- ii) In trenches where surface water is likely to get into cut / trench during monsoons, a ring bund of puddle clay or by any other means shall be formed outside, to the required height, and maintained by the Contractor. Also, suitable steps shall be taken by the Contractor to prevent back flow of pumped water into the trench. Nothing extra shall be payable on this account.

55) **Applicable Permits**

- i. 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 levied 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 lights either for illumination or for cautioning the public at night.
- ii. The contractor shall ensure that applicable permits mandated by the local bodies and in case warranted for this work are obtained as required under the Applicable Laws.

56) **Compliance of directives of Hon'ble National Green tribunal (NGT) dated 04.12.2014 and 10.04.2015 and EIA guidance manual issued in February 2010.**

The contractor shall comply with following guidelines on the matter in pursuance of orders passed by Hon'ble National Green Tribunal.

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

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- 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 compulsory use of wet jet in grinding and stone cutting.
 - 9) The contractor shall comply all the preventive and protective environmental steps as started in the MoEF guidelines, 2010.
 - 10) The contractor shall carry out on-road-inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
 - 11) The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
 - 12) 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 paved areas.
 - 13) 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.
 - 14) Nothing shall be paid extra for fulfilling of all the above conditions.
- 57) Cost and quantity of cement required for adding cement slurry over the base surface and for continuation of concreting for better bond is deemed to be included in the relevant items of schedule of quantities.
 - 58) 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.
 - 59) **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 bid document. In case of make of materials is specified in item, only articles classified as best quality shall only be used.
 - 60) **The contractor will have to work according to the program of work, approved by the Engineer-in- charge.**
 - 61) 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.
 - 62) The Cement godown of the **suitable** capacity shall be constructed by the contractor at site of work as per typical sketch for which no extra payment shall be made. Cement godown shall be provided with a **single door with two locks**. The keys of one lock shall remain with Engineer-in-charge of work 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 removed from the godown according to the daily requirement with the knowledge of both the parties and proper account maintained in standard Performa.
 - 63) 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.

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- 64) 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.
- 65) The contractor shall submit bar chart for completion of the work duly signed by the contractor so as to complete the work in stipulated time period and get it approved from the Engineer-in-Charge before commencement of work.
- 66) Any delay/failure on the part of bidder to arrange for men and materials at required time shall not be considered as valid hindrance.
- 67) **Water charges:** Clause 31A of P.W.D.8 for unfiltered water supply is not applicable since the contractor has to arrange water for construction purposes. And this water shall be tested from a recognized laboratory periodically as directed by the Engineer-in-Charge. Testing charges will be borne by the contractor.
- 68) **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.**

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PARTICULAR SPECIFICATIONS

1. Unless otherwise specified, CPWD Specifications 2019 Volume I & II 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) IS 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. All stone aggregate and stone ballast shall be of hard stone variety to be obtained from approved quarries or any other source to be got approved by the Engineer-in-charge.
6. **Fine Aggregate:-**
 - (i) The fine aggregate to be used for all items except in Plastering work, shall be with Pulverized Stone Sand/ Crushed Stone Sand (Manufactured Sand) and shall be obtained from only approved sources. For Plastering Work, River Sand shall be used which shall be clean and sharp angular grit type. The sand shall be screened before using, if required. If the sand brought to site is dirty, it must be washed in clean water to bring the sand to the required specifications. Nothing extra shall be payable on this account.
 - (ii) The contractor should find out the approved source/quarries at his end also. To find out the approved source/quarries is the responsibility of contractor.
 - (iii) In case of non availability of crushed stone sand, the agency may be permitted at the discretion of Engineer-in Charge to use river/quarry sand on their request on production of adequate proof of non availability of the same, provided it conforms to grading and other requirements given in CPWD specifications. The change in sand type or source would require revision of Mix Design of Concrete from the approved laboratories such as IIT Chennai/IIT Hyderabad/ JNTU Hyderabad/ NCCBM Hyderabad, for which nothing extra shall be paid. In case of use of crushed stone sand, all necessary precautions for CC work, RCC work, masonry work, and all other related works shall be taken by the agency as per relevant CPWD specifications and BIS codes without any extra cost. Nothing extra shall be paid for using river/quarry sand in place of crushed stone sand.
7. Before taking up the finishing work such as Flooring, Plastering, sample unit of toilet, room etc. Contractor shall prepare full-scale sample for large-scale repetitive items and get approved from Engineer-in-Charge before taking up for execution on large scale.
8. The contractor shall get the samples of various materials, fittings to be used in work approved well in advance from the Engineer-in-Charge before placing orders.
9. 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.

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10. Samples of various materials required for testing shall be provided free of charge by the contractor. He shall render all assistance for taking samples, safe custody of the same, and carriage up to the laboratory where the test is to be performed. The cost of the tests shall be borne by the contractor.
11. Testing charges shall be borne by the contractor as per condition 10 above and all other expenditure required to be incurred for taking the samples, conveyance, packing etc. shall be borne by the contractor himself. B.I.S marked materials shall also be got tested beyond certain quantity of the various items required on the works. The technical sanctioning authority shall decide the quantity limit as well as the test categories and decision of such technical sanctioning authority shall be final and binding on the contractor.
12. In case of concrete and reinforced concrete work, the contractor shall be required to make arrangement for carrying out compression strength tests at his own cost. He shall render all assistance for the preparation of cubes, safe custody of the same, proper curing and carriage up to the laboratory where the test is to be performed. The cube tests can be performed at any laboratory approved by the Engineer-in-charge.
13. Contractor shall associate himself with anyone of the specialist firms relating to the water proofing treatment with the approval of Engineer in charge.

14. **R.C.C.WORKS:**

- (i) In respect of projected balconies, projected slabs at roof level and projected verandah, the payment for the RCC work shall be made under the item of RCC slabs. The payment for centering and shuttering of such items shall similarly be paid under the item of centering and shuttering of RCC slab.
- (ii) Any cement slurry added over base surface or for continuation of concreting for better bond is deemed to have been in built in the items and nothing extra shall be payable nor any extra cement shall be considered in cement consumption on this account.
- (iii) **As per Technical Circular no.18 issued by CE(CSQ), CPWD, New Delhi vide no.G-2/SE(QA) /CSQ/69 dated 12.2.2013 , Ultrasonic Pulse Velocity Method of Test for RCC members is required to be conducted for CPWD works as a routine test. The acceptance criteria applicable is as per IS 13311 (Part I) 1992. It may be ensured that this test is carried out in 5% of RCC structural members, to ensure quality of concrete. "Good" and "Excellent" grading are acceptable and below these grading the concrete will not be acceptable.**

Wherever concrete is found with less than required quality as per acceptance criteria, repairs to concrete shall be made. Honeycombed areas and loose pockets shall be repaired by grouting using Portland cement Mortar/ Polymer Modified Cement Mortar/ Epoxy Mortar after chipping loose concrete in appropriate manner. In areas where concrete is found below acceptance criteria and defects are not apparently visible on surface, injecting approved grout in appropriate proportion using epoxy grout/acrylic polymer modified cement slurry made with shrinkage compensating cement/ plain cement slurry etc. shall be resorted to for repairs. Repair to concrete shall be done till satisfactory results are obtained as per the acceptance criteria by retesting of the repaired areas. If satisfactory results are not obtained, dismantling and relaying of concrete shall be done. Nothing extra shall be payable over and above the agreement item for executing such rectification works.

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15. **BRICK WORK**

- (i) The brickwork shall be carried out with good quality fly ash cement bricks of class designation 7.5. The physical properties shall conform to those of Fly Ash cement bricks as per CPWD Specifications.
- (ii) The rate shall also include for leaving chases / notches for dowels / cramps for all kinds of cladding to come over brick work.
- (iii) Brick work provided around shaft or lift walls or around slab cutouts shall be measured in the brick for corresponding floor level. Nothing extra shall be paid on this account.

16. **FLOORING:**

- (i) All work in general shall be carried out as per CPWD Specifications (Volume 1) 2019 with up-to-date correction slips.
- (ii) Whenever flooring is to be done in patterns of tiles and stones, the contractor shall get samples of each pattern laid and approved by the Engineer-in-charge before final laying of such flooring. Nothing extra shall be payable on this account.
- (iii) Different stones / tiles used in pattern flooring shall be measured separately as defined in the nomenclature of the item and nothing extra for laying pattern flooring shall be paid over and above the quoted rate. No additional wastage, if any, shall be accounted for any extra payment.
- (iv) Samples of flooring stones/ Tile (Kota/ Marble/ Granite/ Ceramic tiles/ Vitrified tiles etc.) shall be deposited well in advance with the Engineer-in-Charge for approval. The sizes of stones for flooring shall be of a size not less than 600mmx600mm or as approved by Engineer-in-Charge. Approved samples should be kept at site with the Engineer-in-Charge and the same shall not be removed except with the written permission of Engineer-in-Charge. No payment whatsoever shall be made for these samples.
- (v) The Marble/ Kota/ Granite or any other stone shall be fully supported by the details establishing the quarry and its location or source.
- (vi) The rate of items of flooring is inclusive of Providing Sunken Flooring in Bathrooms, Kitchen, W.C., etc. and nothing extra on this account is admissible.
- (vii) Chasing of required width and thickness shall be made in brick work at skirting location so as to flush the external surface of skirting with internal plastering. No extra payment towards making chases in brick work at skirting shall be made and the same is presumed to be inclusive of rate quoted for the item of providing and fixing skirting.
- (viii) Proper gradient shall be given to flooring for toilets, verandah, kitchen, courtyard etc. so that the wash water flows towards the direction of floor trap. Any reverse slope if found, shall be made good by the contractor by ripping open the floor/grading concrete and nothing shall be paid for such rectifications.
- (ix) The flooring and skirting will be executed as per pattern shown in the Architectural drawings and as per approval of Engineer-in-Charge and nothing extra shall be payable on this account.
- (x) The rate shall include the cost of all materials and labour involved in all the operations. Nothing extra shall be paid for use of cut/sawn stone/ tiles in the work.
- (xi) **Vitrified Tile Flooring**
 - a) The tiles shall be of approved make and shall generally conform to Table 12 of IS15622. The full body Vitrified tiles of specified sizes shall be used & sample of tiles shall be got approved from the Engineer-in-Charge. The Mandatory tests for vitrified tiles shall be got done as per CPWD Specifications (volume-1)/relevant BIS Code.

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- b) The vitrified tiles shall be as specified in the item. The tiles shall be of specified colours as shown in the drawings or as approved by Engineer-in-Charge and will be laid in pattern as per architectural drawings. Nothing extra shall be paid for laying tiles in specific pattern. The tiles shall be of first quality of approved make.

17. WATER SUPPLY AND SANITARY INSTALLATIONS:

- (i) The centrifugally cast (spun) iron S&S pipe, Hub less pipes and G.I pipe / CPVC Pipes/ SWR Pipes wherever necessary shall be fixed to RCC columns, beams etc. with steel dash fastener and nothing extra shall be paid for this.
- (ii) The contractor shall be responsible for the protection of the sanitary and water supply fittings and other fittings and fixtures against pilferages and breakage during the period of installation and thereafter until the building is handed over.
- (iii) The fixing and jointing of vertical CI/SCI pipes/Stacks shall be done on MS brackets as per TECHNICAL CIRCULAR No. 20 Dated 16-04-2013, issued by SE (QA), CSQ, CPWD, New Delhi. A copy of Sketch / Figure showing Fixing Details of Vertical Pipes / Stacks is attached. The piping stack shall be installed at least 50mm, away from the finished / plastered shaft wall. The Item of Brackets and Clamps shall be paid for separately. From floor traps to outside CI fittings only single piece connection pipe shall be used.

18. WATER PROOFING TREATMENT

1) IN SUNKEN/DEPRESSED FLOOR SLABS

(i) INTEGRAL WATER PROOFING TREATMENT

- a) The specification given for the roof surface shall apply for treatment of sunken floor slabs except that instead of brick bats, well burnt brick aggregates of about 40 mm, size shall be used and rounding and tapering at junctions of floor and beam/wall shall be done to a height of 300 mm, The finishing layer of 20 mm. thick cement mortar and cement slurry shall be continued on the vertical surfaces for the entire sunken portion. The finished surface shall be true to line/ level and gradient as specified and of the required thickness.
- b) Water proofing treatment shall be cured for 10 days.
- c) Before the water proofing treatment is done it shall be ensured that the outlet pipes are properly fixed and the gap between the wall and pipes are properly filled with brick/stone aggregate and cement mortar admixed with proprietary water proofing compound and grouted with cement slurry admixed with proprietary water proofing compound by injection process.

(ii) MEMBRANE WATER PROOFING TREATMENT

- a) The work in general shall be carried out as per CPWD Specifications or / as per Manufacturer's Specifications. The Applicators authorized by the manufacturers shall only be engaged in the work.
- b) Before the water proofing treatment is done it shall be ensured that the outlet pipes are properly fixed and the gap between the wall and pipes are properly filled with brick/stone aggregate and cement mortar admixed with proprietary water proofing compound and grouted with cement slurry admixed with proprietary water proofing compound by injection process.

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2) ON TERRACE/ROOF/BALCONIES ETC

- (i) The work in general shall be executed as per Manufacturers Specifications or CPWD Specifications as applicable.
- (ii) Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approval of the Engineer in Charge in writing. Materials shall be kept under double lock and key and proper account of water proofing compound used in the work shall be maintained. It shall be ensured that the consumption of the compound is as per specified requirements.
- (iii) The finished surface after water proofing treatment for floor in sunken portion shall have minimum slope of 1 in 48 unless otherwise decided by the Engineer in Charge.
- (iv) Before commencement of treatment on floor surface, it shall be ensured that outlet drain/spouts have been fixed and the spout openings have been eased and rounded off properly for easy flow of water.
- (v) Contractor shall associate himself with anyone of the specialist firms relating to the water proofing treatment with the approval of Engineer in charge.
- (vi) **Water proofing treatment of all types of work: The Contractor(s) shall submit for the approval of the Engineer-in-Charge, the names of specialized agencies, of repute along with their technical & financial capability proposed to be engaged by him within three months from the date of award who have executed satisfactorily at least one similar work of equal or more magnitude or two similar works of minimum 50% magnitude (Financial) of water proofing items in the agreement during the last seven years.**

19. GUARANTEE FOR WATER PROOFING WORKS:

Five (5) years guarantee bond in prescribed proforma (Annexure-III) attached herewith shall be submitted by the contractor which shall also be signed by both the specialized agency and the contractor to meet their liability/liabilities under the guarantee bond. However, the sole responsibility of above efficiency of water proofing treatment shall rest with the building contractor. Separate guarantee bonds shall be submitted by the contractor for different type of water proofing works. **Additional 10% (Ten percent) of the cost water proofing work (other than Security Deposit mentioned in schedule E) shall be retained as security deposit** and the amount so withheld would be released after **five** years from the date of expiry of maintenance period under the agreement, if the performance of the work done is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within 7(**seven**) days of receipt of intimation of defects pointed out, and if not attended within the specified period, the same will be got done from other Agency/Agencies at the risk and cost of contractor. While attending to the rectification work, the Contractor is responsible to restore and make good any collateral damages likely to occur, to its original specifications. The cost of executing these contiguous works while attending the rectification works shall be borne by the contractor. The security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

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20. GUARANTEE BOND FOR STRUCTURAL GLAZING WORK:

Five (5) years guarantee bond in prescribed proforma (Annexure-IV) attached herewith shall be submitted by the contractor which shall also be signed by both the specialized agency to be approved by Engineer-in-charge and the contractor to meet their liability/liabilities under the guarantee bond. However, the sole responsibility of above efficiency of aluminum work shall rest with the building contractor. **Additional 10% (Ten percent) of the cost of Structural Glazing work (other than Security Deposit mentioned in schedule E) shall be retained as security deposit** and the amount so withheld would be released after five years from the date of expiry of maintenance period under the agreement,

if the performance of the work done is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of receipt of intimation of defects pointed and if are not attended within the specified period, the same will be got done from other agency at the risk and cost of contractor. The security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

21. CEMENT & STEEL REINFORCEMENT

Contractor has to procure Cement and Steel and has to produce manufacturers test certificate and challan for each lot of Cement & Steel Reinforcement procured at site.

A. CONDITIONS FOR CEMENT

1. The contractor shall procure **Portland Pozzolona Cement (PPC) conforming to IS: 1489 (Part-1) /43 grade ordinary Portland Cement (OPC) conforming to IS: 8112** as required in the work from reputed manufacturers of cement such as ACC, Ultratech, Shree Cement, Ambuja, Jaypee Cement, Vikarm, Centuary and J.K. Cement or from any other reputed cement manufacture having a production capacity not less than 1 million Ton per annum as approved by ADG(SR-I), CPWD. The cement of approved make as aforesaid in 50 kg. bag bearing manufacturer's name and ISI marking, along with manufacturers test certificate for each lot shall be procured by the contractor. **Ordinary Portland Cement (OPC) is to be used for all works. It shall be noted that, if the contractor uses higher grade of cement, nothing extra shall be paid. However, the use of Portland Pozzolona Cement in RCC works shall be subject to fulfillment of conditions of circular No. CDO/SE(RR)/Fly ash (MAN) 02 dated 09.04.09. If the contractor uses Puzzolona Portland Cement (PPC) in lieu of Ordinary Portland cement (OPC) necessary cost adjustment shall be made.** The use of PPC shall be regulated as per the following conditions stipulated in the circular dated 09.04.2009:-
 - a) IS:456-2000 Code of Practice for Plain and Reinforced Concrete (as amended upto date) shall be followed in regard to Concrete Mix Portion and its production as under:
 - i. The concrete mix design shall be done as "Design Mix Concrete" as prescribed in clause-9 of IS 456 mentioned above.
 - ii. Concrete shall be manufactured in accordance with clause 10 of above mentioned IS:456 covering quality assurance measures both technical and organizational, which shall also necessarily require a qualified Concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.
 - b) Minimum M25 grade of concrete shall be used in all structural elements of RCC, both in load bearing and framed structure.
 - c) The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of flyash mixed concrete or concrete using flyash blended cements (PPCs) are not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- d) To control higher rate of carbonation in early ages of concrete both in flyash admixed as well as PPC based concrete, water/binder ratio shall be kept as low as possible, which shall be closely monitored during concrete manufacture.

If necessitated due to low water/binder ratio, required workability shall be achieved by use of chloride free chemical admixtures conforming to IS: 9103. The compatibility of chemical admixtures and super plasticizers with each set OPC, fly ash and /or PPC received from different sources shall be ensured by trials.

- e) In environment subjected to aggressive chloride or sulphate attack in particular, use of flyash admixed or PPC based concrete is recommended. In case, where structural concrete is exposed to excessive magnesium sulphate, flyash substitution/content shall be limited to 18% by weight. Special type of cement with low C₃A content may also be alternatively used. Durability criteria like minimum binder content and maximum water/binder ratio also need to be given due consideration in such environment.
- f) **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.**
- g) Subject to General Guidelines detailed out as above, PPC manufactured conforming to IS:1489 (Part-I) shall be treated at par with OPC for manufacture of Design Mix Concrete for structural use in RCC.
- h) Till the time, BIS makes it mandatory to print the %age of flyash on each bag of cement, the certificate from the PPC manufacturer indicating the same shall be insisted upon before allowing use of such cements in works.
- i) **While using PPC for structural concrete work, no further admixing of flyash shall be permitted.**
2. The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer-In-Charge. The cement godown of the capacity to store a minimum of 2000 bags of cement or as decided by NIT approving authority in case less than 100MT cement is required for the work, shall be constructed by the contractor at site of work for which no extra payment shall be made. For small maintenance works, NIT approving authority shall decide the requirement of the storage/godown.
3. **Double lock provision shall be made to the door of the cement godown.** The keys of one lock shall remain with the Engineer-in-charge or his authorized representative and the keys of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-charge at any time.
4. The cement shall be got tested by the Engineer-In-Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laboratories. The cost of tests shall be borne by the contractor/Department in the manner indicated below: (a) By the contractor, if the results show that the cement does not conform to relevant BIS codes. (b) By the Department, if the results show that the cement conforms to relevant BIS codes. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS Codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

5. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at the rate so prescribed shall be made after ensuring structural soundness and stability on the basis of testing. In case of excess consumption no adjustment need to made.
6. The cement brought to the site and the cement remaining unused after completion of the work shall not be removed from site without the written permission of the Engineer-in-charge.
7. The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-In-Charge. If he does not do so within 3 days of receipt of such notice, the Engineer-In-Charge shall get it removed at the cost of the contractor.
8. Chief Engineers/CPMs/ADGs/SDGs may change the brand of Cement depending upon availability in local market but conforming to grade mentioned in the NIT and only with ISI mark, if warranted. The name of manufacturers should be finalized after taking into consideration the availability and cost factor.

B. CONDITIONS FOR STEEL

- (I) **Only ISI marked TMT Bars of various grades shall be procured from Steel manufacturer as per the following guidelines:**

Credentials for eligibility criteria & other technical parameters for steel manufacturers:

The manufacturer should meet the following eligibility criteria:

- a) The Steel manufacturer should have following documentary evidence:
 - i. Certificate of incorporation
 - ii. Memorandum of articles of Association
 - iii. Credit rating of the company from CARE/CRISIL/ICRA (the grading should not be C/D grade for minimum last 3 years)
- b) The Steel manufacturer must have following licenses and certificates:
 - i. ISI certificate for billets (IS 2830:2012)
 - ii. ISI certificate for TMT Bars• (IS 1786:2008 (Amendment-1 November 2012))
- c) The Steel manufacturer should also preferably have the following licenses:
 - i. ISO 9001:2015
 - ii. ISO 14001:2015
 - iii. OHSAS 18001:2007
- d) The steel manufacturer should be using iron ore as the basic raw material. The entire gamut of iron and steel production is owned by the same company or its subsidiary company (ies) and the iron making capacity is sufficiently matching the steel making capacity, adopting any of the refining technologies for manufacturing steel & TMT Bars as given under are eligible:
 - i. BF-BOF route
 - ii. COREX-BOF Route
 - iii. DRI-EAF Route (Each Electric Arc Furnace should be 100 MT or more)
- e) Billets produced must be ISI marked (IS 2830:2012)
- f) The TMT bars produced must be ISI marked (IS 1786:2008)
- g) The steel manufacturer should have the following in house testing facilities (NABL Accredited):
 - i. Computerized Universal Testing Machine
 - ii. Spectrometer
 - iii. Bend Re-bend facility as per IS :1786:2008 (Amendmnt-1 November 2012)

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- iv. Raw material laboratory: Arrangement for testing Carbon, Sulphur & Phosphorous etc.
- v. Other testing facilities as specified in IS : 1786:2008 & IS : 2830:2012

- 1) SDGs are also authorized to approve particular steel manufacturer on suo motto in case they are satisfied with the eligibility criteria and other technical parameters of that manufacturer.
- (II) The contractor shall have to obtain and furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work.
- (III) 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.
- (IV) 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.
- (V) The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- (VI) 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, and 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
10mm 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 50 tonnes or part thereof

- (VII) 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.
 - (VIII) The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.
 - (IX) The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.
- 2) The contractor shall furnish to the Department all the purchase invoices both for cement and steel for every consignment.
 - 3) Weight being calculated with the help of Table 5.4 of CPWD Specifications 2019 (Volume .I). However for thermo-mechanically treated bars up to and including 10 mm the following procedure shall be adopted. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The actual weight of steel issued shall be modified to take into account the variation between the actual and the standard co-efficient given in Table 5.4 and the contractors accounts will be debited by the cost modified quantity only. 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 this purpose.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 4) All materials obtained from government stores or otherwise shall be got checked by the Junior Engineer-in-charge of the works on receipt of the same at site before use.
- 5) The contractor should use factory made round type cover blocks for all RCC works to avoid displacement of bars in any directions and to ensure proper cover.
- 6) Contractor must arrange steel centering and shuttering with steel propping for a minimum area, for casting beams & slabs of one floor at a time for this work.
- 7) Contractor shall ensure that no labourers stay in the work site except chowkidars and other essential staff.
- 8) Contractor shall arrange hutments outside or elsewhere for the stay of Workers / laborers working for the project.
- 9) Contractor shall employ qualified graduate quantity surveyor for computing running bills.

22. TOOLS AND PLANTS.

The necessary T&P shall be deployed by the contractor as required to facilitate and ensure the work to be completed smoothly within the stipulated scheduled time.

23. R.C.C. WORK (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.

Before start of RCC work concrete Mix Design shall be got done by the contractor from a NABL accredited laboratory/ IIT/ NIT/JNTU laboratory with the approval of Engineer-in-Charge. **The RCC Work shall be carried out as per the Mix Design approved by the Engineer-in-charge. No concreting shall be done until the mix design is approved.**

GENERAL:-

- (i) The RCC work shall be done with RMC of 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. **The Ready Mix Concrete shall be as per IS: 4926 and as per CPWD Specification and guide lines.** For the nominal mix in RCC, CPWD specification shall be followed. **The Design Mix Concrete will be designed based on the principles given in IS : 456, 10262 and SP 23.** The contractor shall carry out design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. The cement shall be actually weighed as presumption of each bag having 50 kg shall not be allowed. In case of use of admixture, the mix shall be designed with these ingredients as well.

The specification mentioned herein below shall be followed for Design Mix Concrete.

INGREDIENT

- (i) Coarse Aggregate:- As per CPWD Specifications.
Fine Aggregate:- As per CPWD Specifications.
Water:- As per requirements laid down in IS 456-2000 and CPWD specifications.
Cement:- Cement arranged by the contractor will be OPC (in bags) conforming to IS: 8112.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- (ii) Admixture: - Type of Admixture shall be got approved from Engineer-in-Charge. Admixtures of approved quality shall be mixed with concrete to achieve the desired workability within specified water cement ratio. The admixture shall conform to IS: 9103. The chloride content in the admixture shall satisfy the requirement of BS: 5075. The total amount of chlorides in the admixture mixed concrete shall also satisfy the requirements of IS : 456-2000
- (iii) 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.
- (iv) Grade of concrete:- The characteristic compressive strength of various grades of Concrete shall be given as below:-

Sl. No	Grade Designation	Compressive strength on 15cm cubes min 7 days (N/mm ²)	Specified characteristic compressive strength at 28 days (N/mm ²)	Minimum cement content *(Kg per cum)	Maximum water cement ratio
(i)	M-25	As per mix Design	25	330	0.50
(ii)	M-30	As per mix Design	30	340	0.45
(iii)	M-10	As per mix Design	10	220	0.60

The Concrete mix will be designed for minimum workability as specified in para 7 of IS-456-2000.

- (v) WORKABILITY OF CONCRETE (UNLESS OTHERWISE SPECIFIED ELSEWHERE OR AS DECIDED BY ENGINEER IN CHARGE.

Placing Conditions	Degree of Workability	Slump (mm)
(1)	(2)	(3)
Lightly reinforced sections in slabs, beams, walls, columns	Low	25-75
Heavily reinforced section in slabs, beams, walls, columns.	Medium	50-100
Pumped concrete	Medium	75-100

- (vi) The recommended values of slump for various members to confirm IS 456
- (vii) In the designation of concrete mix letter M refers to the mix and the number to the specified characteristic compressive strength of 15 cm – Cube at 28 days expressed in N/mm².
- (viii) The concrete design mix with or without admixture will be carried out by the Contractor and got tested by any reputed approved NABL accredited laboratory/ university as per direction of Engineer-In-Charge.

For such approval various ingredients for mix design as submitted by contractor shall be sent to the lab/ test houses through the Engineer-In-Charge of the project and got it tested in approved laboratories as may be decided by the Engineer-in-charge. Sample of aggregate sent shall be preserved at site by the department. For each different set of Coarse aggregates & Fine aggregates, fresh design shall be done and got approved by the Department. The admixture if used by contractor shall be at his own cost without any extra payment.

* Note: **The Cement content means ordinary Portland cement of 43 grade.**

- (ix) 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 in approved Lab. by Engineer-In- Charge shall be submitted by the contractor as per the direction of the Engineer in charge.

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

- (x) In case of failure of batching plant and **site conditions warrants for smooth progress of work, RMC of suitable design mix may be allowed with the written permission of Engineer-in-charge, and with no claim of extra cost from the contractor.**

24. APPROVAL OF DESIGN MIX

- (i) The mix design for a specified grade of concrete shall be done for a target mean compressive strength $T_{ck} = F_{ck} + 1.65s$
Where F_{ck} = Characteristic Compressive Strength at 28 days s = Standard deviation which depends on degree of quality control.
- (ii) 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 per IS relevant IS Standards/ Codes.
- (iii) Out 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.

25. CHARGES FOR DESIGN MIX

- (i) All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the Contractor.

26. DESIGN MIX CONCRETE FROM FULLY AUTOMATIC COMPUTERISED CONCRETE BATCHING AND MIXING PLANT

- 1) The contractor shall bring Ready Mix Concrete from approved RMC plants as mentioned in the list showing preferred Brands/ Manufacturers/Makes enclosed in this NIT. The contractor has to produce text of MOU proposed to be entered between purchaser (the contractor) and supplier (R.M.C. plant) to the Engineer-in-charge. The Engineer-in-charge shall give approval in writing. The contractor shall draw the MOU with approved RMC plant owner / company and submit to Engineer-in-charge within a week of such approval. The contractor will not be allowed to purchase ready mixed concrete without completion of above stated formalities for use in this project.
- 2) Notwithstanding the approval granted by Engineer-in-charge in aforesaid manner, the contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.
- 3) The Engineer-in-charge will reserve right to inspect at any such stage and reject the concrete if he is not satisfied about quality of product. The contractor should therefore draw MOU / agreement with RMC owner / company very carefully keeping all terms and conditions / specifications forming a part of this tender document.
 - (i) The Engineer-in-charge reserves the right to exercise control over the ingredients, water and admixtures purchased, stored and to be used in the concrete including conducting of tests for checking quality of materials, recordings of test results and declaring the materials fit or unfit for use in production of mix.
 - (ii) Calibration check of the RMC.
 - (iii) Weight and quantity check on the ingredients, water and admixtures added for batch mixing.
 - (iv) Time of mixing of concrete.
 - (v) Testing of fresh concrete, recordings of results and declaring the mix fit or unfit for use. This will include continuous control on the workability during production and taking corrective action.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 4) For exercising such control, the Engineer-in-charge shall periodically depute his authorized representative at the RMC plant. It shall be responsibility of the contractor to ensure that all necessary equipment manpower & facilities are made available to E-in-C and/ or his authorized representative at RMC plant.
 - 5) Ingredients, admixtures & water declared unfit for use in production of mix shall not be used. A batch mix found unfit for use shall not be loaded into the truck for transportation.
 - 6) All required relevant records of RMC shall be made available to the Engineer-in-charge or his authorized representative. The E-in-C shall, as required, specify guidelines & additional procedures for quality control & other parameters in respect of materials and production & transportation of concrete mix, which shall be binding on the contractor & the RMC plant.
- (i) **Proportioning Concrete**
- In proportioning cement concrete, the quantity of both cement and aggregates shall be determined by weight. The cement shall be weighed separately from the aggregates. Water shall either be measured by volume in calibrated tanks or weighed. All measuring equipment shall be maintained in a clean and serviceable condition. The amount of mixing water shall be adjusted to compensate for moisture content in both coarse and fine aggregates. The moisture content of aggregates shall be determined in accordance with IS: 2386 (Part III). Suitable adjustments shall also be made in the weights of aggregates to allow for the variation in weight of aggregates due to variation in moisture content.

27. Production of Concrete

The concrete shall be RMC produced in a central batching and mixing plant with, computerized printing for contents and admixture dosage. The batching plant shall be fully automatic. Automatic batcher shall be charged by devices which, when actuated by a Single starter switch will automatically start the weighing operation of each material and stop automatically, when the designated weight of each material has been reached. The batching plant shall have automatic arrangement for dispensing the admixture and shall also be capable of discharging water in more than one stage. A print out from the batching plant for every lot shall be submitted. A batching plant essentially shall consist of the following components: Separate storage bins for different sizes of aggregates, silo for cement; and water storage tank.

Batching equipment Mixers Control panels Mechanical material feeding and elevating arrangements

The Contractor shall arrange for inspection of automatic batching plant within seven days of issue of letter of award to facilitate inspection and approval of same by Engineer-In-Charge. Nothing extra will be paid for this.

The compartments of storage bins for aggregates shall be approximately of equal size. The cement compartment shall be centrally located in the batching plant. It shall be watertight and provided with necessary air vent, aeration fittings for proper flow of cement & emergency cement cut off gate. The aggregate and sand shall be charged by power operated centrally revolving chute. The entire plant from mixer floor upward shall be enclosed and insulated. The batch bins shall be constructed so as to pass by self-cleansing during drawdown. The batch bins shall in general conform to the requirements of IS :4925.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

The batching equipment shall be capable of determining and controlling the prescribed amounts of various constituent materials for concrete accurately i.e. water, cement, sand, individual size of coarse aggregates etc. The accuracy of the measuring devices shall fall within the following limits.

Measurement of Cement	$\pm 2\%$ of the quantity of cement in each batch
Measurement of Water	$\pm 3\%$ of the quantity of water in each batch
Measurement of Aggregate	$\pm 3\%$ of the quantity of aggregate in each batch
Measurement of Admixture	$\pm 3\%$ of the quantity of admixture in each batch

(i) Mixing Concrete

The mixer in the batching plant shall be so arranged that mixing action in the mixers can be observed from the operator's station. The mixer shall be equipped with a mechanically or electrically operated timing, signaling and metering device which will indicate and assure completion of the required mixing period. The mixer shall have all other components as specified in IS: 4925.

(ii) Transportation, Placing and Compaction of Concrete.

- a) Mixed concrete from the batching plant shall be transported to the point of placement by transit mixers or through concrete pumps or steel closed bottom buckets capable of carrying 6 cum concrete. In case the concrete is proposed to be transported by transit mixer, the mixer speed shall not be less than 4 rev/ min. of the drum nor greater than a speed resulting in a peripheral velocity of the drum as 70 m / minute at its largest diameter. The agitating speed of the agitator shall be not less than 2 rev / min. nor more than 6 rev / min. of the drum. The number of revolutions of the mixing drum or blades at mixing speed shall be between 70 to 100 revolutions for a uniform mix, after all ingredients, have been charged into the drum. Unless tempering water is added, all rotation after 100 revolutions shall be at agitating speed of 2 to 6 rev / min. and the number of such rotations shall not exceed 250. The general construction of transit mixer and other requirements shall conform to IS: 5892.
- b) In case concrete is to be transported by pumping, the conduit shall be primed by pumping a batch of mortar / thick cement slurry through the line to lubricate it. Once the pumping is started, it shall not be interrupted (if at all possible) as concrete standing idle in the line is liable to cause a plug. The operator shall ensure that some concrete is always there in the pump-receiving hopper during operation. The lines shall always be maintained clean and shall be free of dents.
- c) Materials for pumped concrete shall be batched consistently and uniformly. Maximum size of aggregate shall not exceed one-third of the internal diameter of the pipe. Grading of aggregate shall be continuous and shall have sufficient ultra fine materials (materials finer than 0.25mm). Proportion of fine aggregates passing through 0.25mm shall be between 15 & 30% and that passing through 0.125 mm sieve shall not be less than 5% of the total volume of aggregate. When pumping long distances and through hot weather, set- retarding admixtures may be used. Admixtures to improve workability can be added. Suitability of concrete shall be through pumping shall be verified by trial mixes and by performing pumping tests.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

(iii) **PREPARATION OF MIXES AS PER APPROVED DESIGN MIX AND CONDUCTING CONFIRMATORY TEST AT FIELD LAB.**

- a) The contractor shall make the cubes of trial mixes as per approved Mix design at site laboratory for all grades, in presence of Engineer in charge using sample of approved materials proposed to be used in the work prior to commencement of concreting and get them tested in his presence to his entire satisfaction for 7 days and 28 days. Test cubes shall be taken from trial mixes as follows.

For each mix, a set of six cubes shall be made from each of the three consecutive batches. Three cubes from each set of six shall be tested at age of 7 days and remaining three cubes at age of 28 days. The cubes shall be made, cured, transported and tested strictly in accordance with specifications. The average strength of nine cubes at age of 28 days shall exceed the specified target mean strength for which design mix has been approved, the evaluation of test results will be done as per IS : 456-2000.

28. WORK STRENGTH TEST

TEST SPECIMEN

Work strength test shall be conducted in accordance with IS: 516 on random sampling. Each test shall be conducted on six specimens, three of which shall be tested at 7 days and remaining three at 28 days. Additional samples shall be prepared, if required, as per direction of Engineer in charge for testing samples cured by accelerated method as described in IS: 9103.

29. TEST RESULTS OF SAMPLE

The test results of the sample shall be the average of the strength of three specimens. 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 tests shall be done at the laboratory established at site by the contractor and remaining 10% in the laboratory of Government Engineering colleges, or in any other approved laboratory as directed by the Engineer- in-charge.

30. STANDARD FOR ACCEPTANCE

- i) Standard of acceptance shall be same as specified in clause 16 of IS 456-2000.
- ii) In order to keep the floor finish as per direction of Engineer-in-charge and as per Architectural drawings and to provide required thickness of the flooring as per specification, 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.

31. Ultrasonic Pulse Velocity Method of Test for RCC

- i) The underlying principle of assessing the quality of concrete is that comparatively higher velocities are obtained when the quality of concrete in terms of density, homogeneity and uniformly is good. The consistency of the concrete as regards its general quality gets established. In case of poorer quality lower velocities are obtained. If there are cracks, voids or flaws inside the concrete which come in the way of transmission of pulse, lower velocities are obtained.
- ii) The quality of concrete in terms of uniformity, incidence or absence of internal flaws, cracks and segregation etc. indicative of the level of workmanship employed, can thus be assessed using the guidance given in table below, which have been evolved for characterizing the quality concrete in structure in term of the ultrasonic pulse velocity.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Velocity criterion for Concrete Quality Grading.

Sl. No.	Pulse velocity by Cross Probing (km/sec)	Concrete Quality Grading
1	Above 4.5	Excellent
2	4.5 to 3.5	Good
3	3.5 to 3.0	Medium
4	Below 3.0	Doubtful

Note: In Case of “doubtful” quality it may be necessary to carry further tests.

- iii) Pulse velocity method of test of concrete is to be conducted for CPWD works as a routine test. The acceptance criteria as per the above table will be applicable which is as per IS 13311 (part-1): 1992. From the above “Good” and “Excellent” grading are acceptable and below these grading the concrete will not be acceptable.
- iv) 5% of the total number of RCC members in each category i.e. beam, column, slab and footing may be tested by UPV test method for establishing quality of concrete. It is suggested that test be conducted on RCC beam near joint with column, on RCC column near joint with beam, on RCC footings and rafts. On RCC rafts a suitable grid can be worked out for determining number of tests. In addition doubtful areas such as honeycombed locations, locations, where continuous seepage is observed, construction joints and visible loose pockets will also be tested.
- v) The test results are to be examined in view of the above acceptance criteria “Good” and “Excellent” and wherever concrete is found with less than required quality as per acceptance criteria, repairs to concrete will be made. Honeycombed areas and loose pockets will be repaired by grouting using Portland Cement Mortar/Polymer Modified Cement Mortar /Epoxy Mortar ,etc. after chipping loose concrete in appropriate manner. In areas where concrete is found below acceptance criteria and defects are not apparently visible on surface, injecting approved grout in appropriate proportion using epoxy grout /acrylic Polymer modified cements slurry made with shrinkage compensating cement / plain cement slurry etc will be resorted to for repairs.(refer relevant chapters from CPWD Hand Book on Repairs and Rehabilitation of RCC Buildings).Repair to concrete will be done till satisfactory results are obtained as per the acceptance criteria by retesting of the repaired area. If satisfactory results are not obtained dismantling and relaying of concrete will be done.

32. MEASUREMENT:

As per CPWD specifications.

33. TOLERANCES:

As per CPWD specifications

34. RATE:

- i) The rate includes the cost of materials and labour involved in all the operations described above except for the cost of centering, shuttering and reinforcement, which will be paid for separately.
- ii) 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 the basis of analysis.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- iii) 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 tests (like cutting cores, ultrasonic pulse velocity test, load test 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 5.4.13 of Revised CPWD specification 2019, Vol.-I.
- iv) As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 12 to 20mm or as required, lower than general floors shuttering should be adjusted accordingly. The landing level of mumti / Staircase cabin shall be Kept one riser level higher than adjoining slab level so as to accommodate water proofing treatment over terrace slab. In case of kitchen slab the portion of floor trap below kitchen platform be kept at lower level as per drawings. Nothing extra is payable on this account.
- v) For the execution of centering and shuttering, the contractor shall use propriety "Reebole" chemical mould release agent of FOSROC or equivalent as shuttering oil as approved by Engineer-in-charge and nothing extra shall be paid on this account.

35. COVER/SPACER BLOCK

The contractor shall provide approved type of support for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as called for in the drawings, spacer blocks of required shape and size. Chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement. Spacer blocks shall be cast well in advance with approved proprietary pre-packed free flowing mortars of high early strength and same colour as surrounding concrete. Pre-cast cement mortar/concrete blocks/ blocks of polymer shall not be used as spacer blocks unless specially approved by the Engineer-in-charge, rate of RCC items is inclusive of cost of such cover blocks.

36. ALUMINIUM WORK

FIVE years guarantee bond in prescribed proforma (**Annexure-IV**) attached herewith shall be submitted by the contractor which shall also be signed by both the specialized agency and the contractor to meet their liability/liabilities under the guarantee bond. However, the sole responsibility of above efficiency of Aluminum Work shall rest with the building contractor.

- i) The material for the work shall be procured from the approved manufacturer as per the list attached with the tender documents. The Contractor shall procure and submit samples of various materials to be used in the work for the approval of Engineer-in-Charge and no work shall commence before such samples are approved. Samples of un-anodized as well as polyester powder coated aluminum sections, microwave cured EPDM gaskets, glass, stainless steel screws, anchor fasteners, hardware and any other material or components requiring approval of samples, in opinion of Engineer-in-Charge, shall be submitted for the approval as mentioned above. The above samples shall be retained as standards of materials and workmanship.
- ii) The Contractor shall prepare the shop drawings for the aluminum windows giving details of the various aluminum sections, microwave cured EPDM gaskets, cleats, anchor fasteners, hardware, sealants, glass etc. and submit the same for the approval of Engineer-in-Charge.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
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- iii) Only after the approval of the samples and the shop drawings by the Engineer-in-Charge, the Contractor shall procure the material for the work. All materials brought to the site by the Contractor, for use in the work, as well as fabricated components shall be subject to inspection and approval by Engineer-in-Charge. The Contractor shall produce manufacturer's test certificates for any material or particular batch of materials supplied by him.
- iv) The Contractor shall prepare a finished sample of the aluminum window along with glazing panel and fittings etc. for approval of workmanship and material. Nothing extra shall be payable on this account.
- v) Aluminum sections to be used for various works shall be appropriate to meet technical, structural, functional and aesthetic considerations. The polyester powder coating shall be carried out in an approved factory / workshop as specified in the tender documents.

vi) Fabrication

All joints shall be accurately fabricated and be hairline in appearance. The finished surface shall be free from visible defects. All the aluminum windows/ ventilators /doors shall be factory made and shall be brought to site for assembly and fixing.

All hardware used shall conform to the relevant specifications and as per samples approved by the Engineer- in-Charge. Design, quality, type, number and fixing of hardware shall be generally in accordance with architectural drawings and as approved by the Engineer-in-Charge before use.

All doors, windows, ventilators and glazing etc. shall be made water tight with microwave cured EPDM gaskets and weather silicone sealants to the satisfaction of the Engineer-in-Charge, for which nothing extra shall be payable.

The frames shall be strictly as per Architectural drawings, the corners of the frame being fabricated to the true right angles. Both the fixed frames and openable shutter frames shall be fabricated out of sections cut to required length, mitered and mechanically jointed for satisfactory performance. All members shall be accurately machine milled and fitted to form hairline joints. The jointing accessories such as aluminum cleats, stainless steel screws etc. shall not to cause any bi-metallic reaction by providing separators, wherever required. 6.5 Vertical members of the aluminium frame work shall be embedded in the floors, wherever required, by cutting and making good of the floor.

37. FIXING OF ALUMINIUM FRAME WORK

The screws used for fixing fixed aluminium frames of the aluminium windows to masonry walls / RCC members and aluminium members to other aluminium members shall be of stainless steel of approved make and quality and of stainless steel grade 304. Threads of machine screws used shall conform to requirement of I.S. 4218.

For the aluminium windows, the gap between the aluminium frames and the R.C.C / Masonry and also any gaps in the various sections shall be filled with weather silicone sealant DC 795 of Dow Corning or equivalent in the required bite size, to ensure water tightness including providing and fixing backer rod , wherever required. The weather silicone sealant shall be of such approved colour and composition that it would not stain or streak the masonry / R.C.C. work. It should not sag or flow and shall not set hard or dry out under any conditions of weather and shall be tooled properly. The weather silicone sealant shall be used as per the manufacturer's specifications and shall be of approved colour and shade. Any excess sealant shall be removed / cleared. Nothing extra shall be payable for the above.

Cor	NIL		Ins	NIL
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AE(C)	AE(E)		EE(C)	

Fixing of glass panes shall be designed in such a way that replacing damaged / broken glass panes is easily possible without having to remove or damage any members or interior finishing materials. Stainless steel adjustable heavy duty friction hinges and the aluminium handles for the open able side hung windows shall be of "Earl Bihari" Ebco, make or equivalent as approved by the Engineer-in-Charge. 2 nos. friction hinges shall be provided per shutter.

38. PROTECTIONS AND CLEANING:

All glass panes shall be retained within aluminium framing by use of exterior grade microwave cured EPDM gaskets. Use of glazing or caulking compounds around the perimeter of glass will not be permitted. There shall be no whistling or rattling. Before installation of glass, Contractor shall ensure the following:

All glazing rebates shall be square, to plumb, true to plane, dry and free from dust.

Glass edge shall be clean and cut to exact size and grounded Low 'E' – Heat strengthened glass of specified thickness in doors, windows, ventilators and fixed glazing etc. shall be of approved make and standard quality conforming to C.P.W.D. Specifications.

4 mm thick glass panes shall be provided for openings not exceeding 0.5 sqm. For openings exceeding 0.5 sqm in area, 5.0 mm thick glass panes shall be provided unless specified otherwise.

39. Due to Covid-19 Outbreak the following additional conditions the contractor shall follow.

- 1) Standard Operations Procedure (SOPs) and Guidelines for Construction Sites for COVID-19 Outbreak issued vide letter no.2/9/2020-WII/DG/169, dt.05/05/2020, by O/o. Directorate General, CPWD, Nirman Bhawan, Delhi (copy enclosed).
- 2) Preventive Measures to contain the spread of COVID-19 Pandemic guidelines issued from time to time by Government of India, Government of Telangana State, Local Bodies and Client Departments.
- 3) For execution of work, site shall be made available in parts / phased manner.
- 4) The contractor shall make himself aware of above and educate his staff / workmen and provide necessary arrangements accordingly, nothing extra shall be paid on this account.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

ENVIRONMENT MANAGEMENT

1. AIR QUALITY

- 1.13 The Contractor shall take all necessary precautions to minimize fugitive dust emissions from operations involving excavation, grading, and clearing of land and disposal of waste. He shall not allow emissions of fugitive dust from any transport, handling, construction or storage activity to remain visible in atmosphere beyond the property line of emission source for any prolonged period of time without notification to the Engineer-in-Charge.
- 1.14 The Contractor shall use construction equipment designed and equipped to minimize or control air pollution.
- 1.15 If after commencement of construction activity, Engineer-in-Charge believes that the Contractor's equipment or methods of working are causing unacceptable air pollution impacts then these shall be inspected and remedial proposals shall be drawn up by the Contractor, submitted for review to the Engineer-in-Charge and implemented.
- 1.16 In developing these remedial measures, the Contractor shall inspect and review all dust sources that may be contributing to air pollution. Remedial measures include use of additional/alternative equipment by the Contractor or maintenance/modification of existing equipment of the Contractor.
- 1.17 In the event that approved remedial measures are not being implemented and serious impacts persist, the Engineer-in-Charge may direct the Contractor to suspend work until the measures are implemented as required under the Contract.
- 1.18 Contractor's transport vehicles and other equipment shall conform to emission standards fixed by Statutory Agencies of Government of India or the State Government from time to time. The Contractor shall carry out periodical checks and undertake remedial measures including replacement, if required, so as to operate within permissible norms.
- 1.19 The Contractor shall establish and maintain records of routine maintenance program for internal combustion engine powered vehicles and equipment used on this project.
- 1.20 The Contractor shall cover loads of dust generating materials like debris and soil being transported from construction sites. All trucks carrying loose material should be covered and loaded with sufficient free-board to avoid spills through the tail board or side boards.
- 1.21 The Contractor shall promptly transport all excavation disposal materials of whatever kind so as not to delay work on the project. Stockpiling of materials will only be allowed at sites designated by the Engineer-in-Charge. The Contractor shall place excavation materials in the dumping/disposal areas designated by Engineer-in-Charge.
- 1.22 The temporary dumping areas shall be maintained by the Contractor at all times until the excavate is re-utilized for backfilling or as directed by Engineer-in-Charge. Dust control activities shall continue even during any work stoppage.
- 1.23 The contractor shall place material in a manner that will minimize dust production. Material shall be minimized each day and wetted, to minimize dust production. During dry weather, dust control methods must be used daily especially on windy, dry days to prevent any dust from blowing across the site perimeter.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 1.24 The Contractor shall water down construction sites as required to suppress dust, during handling of excavation soil or debris or during demolition. The Contractor will make water sprinklers, water supply and water delivering equipment available at any time that it is required for dust control use. Dust screens will be used, as feasible when additional dust control measures are needed specially where the work is near sensitive receptors.
- 1.25 The Contractor shall provide a wash pit or a wheel washing and/or vehicle cleaning facility at the exits from work sites. At such facility, high-pressure water jets will be directed at the wheels of vehicles to remove all spoil and dirt.

2. WATER QUALITY

- 2.13 The Contractor shall comply with the Indian Government legislation and other State regulations in existence so far as they relate to water pollution control and monitoring. A drainage system should be constructed at the commencement of the Works, to drain off all surface water from the work site into suitable drain outlet.
- 2.14 The Contractor shall provide adequate precautions to ensure that no spoil or debris of any kind is pushed, washed, falls or deposited on land adjacent to the site perimeter including public roads or existing stream courses and drains within or adjacent to the site. In the event of any spoil or debris from construction works being deposited or any silt washed down to any area, then all such spoil, debris or material and silt shall be immediately removed and the affected land and areas restored to their natural state by the Contractor to the satisfaction of the Engineer-in-Charge.
- 2.15 The Contractor shall ensure that earth, bentonite, chemicals and concrete agitator washings etc. are not deposited in the watercourses but are suitably collected and residue disposed off in a manner approved by local authorities.
- 2.16 All water and waste products (surface runoff and wastewater) arising on the site shall be collected and removed from the site via a suitable and properly designed temporary drainage system and disposed off at a location and in a manner that will cause neither pollution nor nuisance.
- 2.17 Any mud slurry from drilling, diaphragm wall construction or grouting etc. shall not be discharged into the drainage system unless treatment is carried out that will remove silt, mud particles, bentonite etc. The Contractor shall provide treatment facilities as necessary to prevent the discharge of contaminated ground water.
- 2.18 The Contractor shall discharge wastewater arising out of site office, canteen or toilet facilities constructed by him into sewers after obtaining prior approval of Engineer-in-Charge. A wastewater drainage system shall be provided to drain wastewater into the sewerage system.
- 2.19 The bentonite mixing, treatment and handling system shall be established by the contractor giving due regard to its environmental impacts. The disposal of redundant bentonite shall be carefully considered whether in bulk or liquid form. The disposal location will be advised and agreed with the relevant authorities.
- 2.20 The Contractor shall take measures to prevent discharge of oil and grease during spillage from reaching drainage system or any water body. Oil removal / interceptors shall be provided to treat oil waste from workshop areas etc.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
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- 2.21 The Contractor shall apply to the appropriate authority for installing bore wells for water supply at site.

3. WASTE MANAGEMENT

- 3.13 The contractor is required to develop, institute and maintain a Waste Management Programme (WMP) during the construction of the project for his works, which may include:-
- (i) Identification of disposal sites.
 - (ii) Identification of quantities to be excavated and disposed off.
 - (iii) Identification of split between waste and inert material
 - (iv) Identification of amounts intended to be stored temporarily on site location of Such storage.
 - (v) Identification of intended transport means and route.
 - (vi) Obtaining permission, where required, for disposal.
- 3.14 Such a mechanism is intended to ensure that the designation of areas for the segregation and temporary storage of reusable and recyclable materials are incorporate into the WMP. The WMP should be prepared and submitted to the Engineer-in-Charge for approval.
- 3.15 The Contractor shall handle waste in a manner that ensures they are held securely without loss or leakage thus minimizing potential for pollution. The Contractor shall maintain and clean waste storage areas regularly.
- 3.16 The Contractor shall remove waste in a timely manner and dispose off at landfill sites after obtaining approval of Conservancy and Sanitation Engineering Department of Municipal Corporation for its disposal.
- 3.17 Burning of wastes is prohibited. The Contractor shall not burn debris or vegetation or construction waste on the site but remove it.
- 3.18 The Contractor shall make arrangement to dispose of metal scrap and other saleable waste to authorized dealer and make available to the Engineer-in-Charge on request, records of such sales.

4. HAZARDOUS WASTE MANAGEMENT

- 4.13 If encountered or generated as a result of Contractor's activity, then waste classified as hazardous under the "Hazardous Wastes (Management & Handling) Rules, 1989, amendments 2000, 2003" shall be disposed off in a manner in compliance with the procedure given in the rules under the aforesaid act.
- 4.14 Chemicals classified as hazardous chemicals under "Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 of Environment (Protection) Act, 1986 shall be disposed off in a manner in, compliance with the procedure given in the rules under the aforesaid act.
- 4.15 The contractor shall identify the nature and quantity of hazardous waste generated as a result of his activities and shall file a 'Request for Authorisation' with A.P Pollution Control Committee along with a map showing the location of storage area.
- 4.16 Outside the storage area, the contractor shall place a 'display board', which will display quantity and nature of hazardous waste, on date. Hazardous Waste needs to be stored in a secure place.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 4.17 It shall be the responsibility of the contractor to ensure that hazardous wastes are stored, based on the composition, in a manner suitable for handling, storage and transport. The labeling and packaging is required to be easily visible and be able to withstand physical conditions and climatic factors.
- 4.18 The contractor shall approach only Authorized Recycler of Hazardous Waste for disposal of Hazardous Waste, under intimation to the Engineer-in-Charge.
- 4.19 Submittal of all environment related documents and records pertaining to monitoring and trend analysis on key parameters such as but not limited to consumption/efficient use of resources such as energy, water, material such as cement, fly ash, iron and steel, recycle/reuse of waste etc that shall have demonstrated continual improvement in the implementation of Environmental management System. Failure to do so the employer shall impose appropriate penalty as indicated under penalty clause.

5. **ENERGY MANAGEMENT.**

- 5.13 The contractor shall use and maintain equipment so as to conserve energy and shall be able to produce demonstrable evidence of the same upon of Engineer-in-Charge request.
- 5.14 Measures to conserve energy include but not limited to the following:
- i) Use of energy efficient motors and pumps.
 - ii) Use of energy efficient lighting, which uses energy efficient luminaries.
 - iii) Adequate and uniform illumination level at construction sites suitable for the task.
 - iv) Proper size and length of cables and wires to match the rating of equipment.
 - v) Use of energy efficient air conditioners.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

ANNEXURE-III**GUARANTEE BOND TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECTS
AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS**

The Agreement made this day of two thousand and between son of of (hereinafter called the Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called Government of the other part).

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

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

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

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

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

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

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

IN WITNESS WHEREOF these presents have been executed by the Obligorand by and for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGOR in the presence of.

1.

2.

Signed for and on behalf of THE PRESIDENT OF INDIA by
_____ in presence of:

1.

2.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

**GUARANTEE BOND TO BE EXECUTED FOR REMOVAL OF DEFECTS AFTER
COMPLETION IN RESPECT OF ALUMINIUM WORK FOR DOORS, WINDOWS,
VENTILATORS / STRUCTURAL GLAZING WORK**

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

WHEREAS THIS agreements is supplementary to a contract (hereinafter called the Contract) dated _____ and made between the GUARANTOR OF THE ONE part and the Government of the other part. Whereby the contractor interalia, undertook to render the work in the said contract recited structurally stable leak proof and sound material, workmanship, anodizing, coloring, sealing.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable, leak proof and guaranteed against the faulty material and workmanship defective anodizing coloring and finishing for **Five years** from the date after the maintenance period prescribed in the contract.

NOW THE GUARANTOR hereby guarantees that the work executed by him will remain structurally stable leak proof and guaranteed against faulty material and workmanship defective anodizing and coloring for the minimum life to **Five years** to be reckoned from the date after the maintenance period prescribed in the contract.

The decision of the Engineer – in – Charge with regard to cause of defect shall be final.

During this period of guarantee the guarantor shall make good all defects and in case of any defect to the satisfaction of Engineer – in – Charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer – in – Charge calling upto him to rectify the defects failing which the work shall be got done by department by some other contractor at guarantors cost and risk. The decision of the Engineer – in – Charge as to the cost, payable by the Guarantor shall be final and binding.

That if Guarantor fails to make good all the defects, commits breach there under then the guarantor will indemnify the Principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement.

As to the amount of loss and / or damage and / or cost incurred by the Government the decision of the Engineer – in – Charge will be final and binding on parties.

IN WITNESS WHEREOF these 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 the presence of:-

- 1.
- 2.

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY _____ in presence of: -

- 1.
- 2.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

GOVERNMENT OF TELANGANA**ABSTRACT**

Mines and Minerals - Rules - The Telangana Minor Mineral concession Rules, 1966 - Revision of Seigniorage Fee - Amendment - Notification - Orders - Issued.

INDUSTRIES AND COMMERCE (MINES.I) DEPARTMENT

G.O.Ms.No.18,

Dated:31.03.2022

Read the following

- 1) G.O.Ms.No.67, Industries & Commerce (M.I) Dept., dt:26.09.2015
- 2) G.O.Ms.No.16, Industries & Commerce (M.I) Dept., dt:16.03.2016
- 3) From the Director of Mines and Geology, Hyderabad Letter No.1247095/P/2021, dated:22.09.2021.

ORDER:

The Director of Mines and Geology, Telangana, by above reference 3rd read above, has stated that as per Section 15 (3) of Mines and Mineral (Development and Regulation) Act, 1957 (MMDR, 1957), Seigniorage Fee has to be revised every three years. The Director also stated that no revision of Seigniorage Fee has been done in past six years and the last revision was done on 26.09.2015 for Schedule-I Minor Minerals and 16.03.2016 for Schedule III Minor Minerals.

2. Hence, the Director has proposed revision of Seigniorage Fee and requested the Government to issue necessary amendments to Schedule I and Schedule III under Rule 10 of Telangana State Minor Mineral Concession Rules, 1966.

3. After careful examination of the proposal of the Director of Mines and Geology, Telangana, it is hereby decided to accept the revision of Seigniorage Fee.

4. Accordingly, the following notification shall be published in the Extra-Ordinary Issue of the Telangana State Gazette.

NOTIFICATION

In exercise of the powers conferred by Sub-Section (1) of Section 15 of the Mines and Minerals (Development and Regulation) Act, 1957 (Central Act No.67 of 1957), the Governor of Telangana hereby makes the following amendments to the Telangana Minor Mineral Concession Rules, 1966.

AMENDMENTS

In the said rules, for Schedule I and Schedule III under Rule 10, the following shall be substituted.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
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SCHEDULE-I
RATES OF SEIGNIORAGE FEE

S. No	Name of Minor Mineral	Rate of Seigniorage Fee per Metric Tonne (MT) (In Rupees)
1	Building Stone, Rough Stone/ Boulders, Road Metal, Ballast and Manufactured Sand (M-Sand)	65
2	Dimensional Stone used for Kerbs& Cubes	130
3	Lime Kankar / Limestone	The rate of royalty as applicable to Limestone (other than LD Grade) in respect of major Minerals as per the 2nd Schedule of the Mines & Minerals (D&R) Act, 1957.
4	Marble	130
5	Mosaic chips	58
6	Morrum/Gravel & Ordinary Earth	20
7	Ordinary Sand	27
8	Shingle	22
9	Chalcedony Pebbles	65
10	Fullers Earth/ Bentonite	195
11	Shale/Slate	195
12	Rehmatti	32
13	Limestone slabs	130
14	Brick Earth used in the manufacture of Bricks including Mangalore Tiles.	7800 per kiln per annum
15	Granite useful for cutting and polishing	
	i) Black Granite	
	a) Gangsaw (above 270 x above 150 CM)	1361/3900 MT / M3
	b)below Gangsaw	1043/2990 MT / M3
	ii) Colour Granite	
	a) Gangsaw (above 270 x above 150 CM)	1128/2990 MT / M3
	b)below Gangsaw	980 / 2600 MT / M3

SCHEDULE-III
RATES OF SEIGNIORAGE FEE

S. No	Name of the Minor Mineral	Rate of Seigniorage Fee per Metric Tonne (MT) (In Rupees)
1	Agate	156
2	Ball Clay	78
3	Barytes	780
4	Calcareous Sand	97
5	Calcite	91
6	Chalk	104
7	China Clay	78
8	Clay (Others)	52
9	Corundum	78
10	Diaspore	351

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
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11	Dolomite	130
12	Dunite or Pyroxenite	52
13	Felsite	143
14	Feldspar	97
15	Fireclay (including plastic, pipe, lithomargic and natural pozzolanic clay)	65
16	Fuchsite Quartzite	91
17	Gypsum	91
18	Jasper	156
19	Kaolin	78
20	Laterite	130
21	Limekankar	123
22	Mica	2600
23	Ochre	45
24	Pyrophyllite	234
25	Quartz	78
26	Quartzite	78
27	Sand (Others)	78
28	Shale	169
29	Silica Sand	78
30	Slate	169
31	Steatite or Talc or Soapstone	390

5. These orders will come into effect from 01st April, 2022.
6. The Director of Mines & Geology, Telangana, shall take necessary action accordingly.
7. This order is issued with the concurrence of Finance Department vide their U.O.No.2012-A/89/EBS.VII/I&C/2021, dated:22-09-2021

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

SOMESH KUMAR
CHIEF SECRETARY TO GOVERNMENT &
PRINCIPAL SECRETARY TO GOVERNMENT (MINES & GEOLOGY)(FAC)

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

To

The Commissioner of Printing, Stationary & Stores Purchase (Ptg. Wing) Hyderabad.

(He is requested to publish the above Notification in the Extra -Ordinary issue of Telangana Gazette, and arrange to send 500 copies of the same to Government in Inds. & Comm. (M.I) Dept.,).

The Director of Translation, Telangana, Hyderabad.

(He is requested to furnish the Telugu version of the Notification direct to the Commissioner, Printing, Stationary & Stores Purchase (Ptg. Wing), Hyderabad).

The Director of Mines and Geology, Telangana State, Hyderabad.

The Vice Chairman & Managing Director, Telangana State Mineral Development Corporation Ltd., Hyderabad.

All the District Collectors/ Additional Collectors in the State of Telangana.

The Municipal Administration and Urban Development Department.

The Irrigation & CAD Department.

The Transport, Roads & Buildings Department.

The Panchayat Raj & Rural Development Department.

The Revenue Department.

The Director General of Police, Hyderabad.

The Commissioner of Rural Development, Hyderabad.

The Commissioner of Transport, Hyderabad.

The Commissioner of Panchayat Raj, Hyderabad

The Director, Ground Water Department.

The Member-Secretary, Telangana State Pollution Control Board, Hyderabad.

The Engineer-in-Chief, Irrigation Department.

Copy to :

The Secretary to Government, Ministry of Mines, Govt of India.

The Law Department.

The Finance Department.

P.S. to Principal Secretary to Hon'ble Chief Minister.

P.S to Hon'ble Minister MA&UD

P.S. to Hon'ble Minister for Panchayat Raj & Rural Development.

P.S. to Hon'ble Minister for Irrigation.

P.S. to Chief Secretary and Principal Secretary to Government, Industries & Commerce (Mines) Department.

The Joint Directors/Deputy Directors/Assistant Directors of Mines and Geology through the Director of Mines & Geology, Hyderabad.

The General Administration (Cabinet) Department.

Sc/Sf

//FORWARDED:: BY ORDER//

SECTION OFFICER

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

GOVERNMENT OF TELANGANA**ABSTRACT**

Mines and Minerals - Rules - The Telangana Minor Mineral concession Rules, 1966 - Levy of Permit Fee on Minor Minerals - Amendment - Notification - Orders - Issued.

INDUSTRIES AND COMMERCE (MINES.I) DEPARTMENT

G.O.Ms.No.21,

Dated:31.03.2022

Read the following

From the Director of Mines and Geology, Hyderabad Letter No.1247095/P/2021, dated:22.09.2021.

ORDER:

The Director of Mines and Geology, Telangana, has submitted proposal in the reference read above and stated that, there is no fee levied at the time of issuance of permit and proposed to levy Permit Fee in addition to the Seigniorage Fee, DMF and SMET when permit is issued for transportation of extracted minerals at the rate of 0.8 times of Seigniorage fee for all minor minerals except Colour Granite, Black Granite and Ordinary Sand and 0.4 times of Seigniorage fee for Colour Granite and Black Granite irrespective of the mode of grant of lease.

2. The Director of Mines and Geology, Telangana has requested the Government to issue necessary amendments to Rule 4 and Rule 34(2) of Telangana State Minor Mineral Concession Rules, 1966 to this effect.

3. After careful examination of the proposal of the Director of Mines and Geology, Telangana, it is hereby decided to levy Permit Fee in addition to the Seigniorage Fee, DMF and SMET, at the rate of 0.8 times of Seigniorage fee for all minor minerals except Colour Granite, Black Granite & Ordinary Sand and at the rate of 0.4 times of Seigniorage fee for Colour Granite and Black Granite on the lease holders/permit holders, irrespective of the mode of grant of lease, duly amending the Rule 4 and Rule 34(2) Telangana Minor Mineral Concession Rules, 1966.

4. Accordingly, the following Notification will be published in an Extra-Ordinary Issue of Telangana State Gazette.

NOTIFICATION

In exercise of the powers conferred by Sub-Section (1) of Section 15 of the Mines and Minerals (Development and Regulation) Act, 1957 (Central Act 67 of 1957), the Governor of Telangana hereby makes the following amendments to the Telangana Minor Mineral Concession Rules, 1966.

AMENDMENTS

In the said Rules, in Rule-4, after clause (j), the following clauses shall be added, namely

(k) 'Permit Fee' means the amount payable by the lease holder/permit holder at the time of grant of permit.

(ii) In Rule-34, Sub-Rule (2) the following shall be inserted after the words "payment of seigniorage fee" "along with permit fee at the rate of 0.8 times of Seigniorage fee for all minor minerals except Colour Granite, Black Granite & Ordinary Sand and at the rate of 0.4 times of Seigniorage fee for Colour Granite and Black Granite, irrespective of the mode of grant of lease"

5. These orders will come into effect from 01st April, 2022.

6. The Director of Mines & Geology, Telangana, shall take necessary action accordingly.

Cor	NIL	Ins	NIL
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AE(C)	AE(E)	EE(C)	

7. This order is issued with the concurrence of Finance Department vide their U.O.No.2012-A/89/EBS.VII/I&C/2021, dated:22-09-2021.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

SOMESH KUMAR
CHIEF SECRETARY TO GOVERNMENT &
PRINCIPAL SECRETARY TO GOVERNMENT (MINES & GEOLOGY)(FAC)

To

The Commissioner of Printing, Stationary & Stores Purchase (Ptg. Wing) Hyderabad.

(He is requested to publish the above Notification in the Extra -Ordinary issue of Telangana Gazette, and arrange to send 500 copies of the same to Government in Inds. & Comm. (M.I) Dept.,).

The Director of Translation, Telangana, Hyderabad.

(He is requested to furnish the Telugu version of the Notification direct to the Commissioner, Printing, Stationary & Stores Purchase (Ptg. Wing), Hyd.

The Director of Mines and Geology, Telangana State, Hyderabad.

The Vice Chairman & Managing Director, Telangana State Mineral Development Corporation Ltd., Hyderabad.

All the District Collectors/ Additional Collectors in the State of Telangana.

The Municipal Administration and Urban Development Department.

The Irrigation & CAD Department.

The Transport, Roads & Buildings Department.

The Panchayat Raj & Rural Development Department.

The Revenue Department.

The Director General of Police, Hyderabad.

The Commissioner of Rural Development, Hyderabad.

The Commissioner of Transport, Hyderabad.

The Commissioner of Panchayat Raj, Hyderabad

The Director, Ground Water Department.

The Member-Secretary, Telangana State Pollution Control Board, Hyderabad.

The Engineer-in-Chief, Irrigation Department.

Copy to :

The Secretary to Government, Ministry of Mines, Govt of India.

The Law Department.

The Finance Department.

P.S. to Principal Secretary to Hon'ble Chief Minister.

P.S to Hon'ble Minister MA&UD

P.S. to Hon'ble Minister for Panchayat Raj & Rural Development.

P.S. to Hon'ble Minister for Irrigation.

P.S. to Chief Secretary and Prl Secy. to Govt, Ind & Com(Mines) Department.

The Joint Directors/Deputy Directors/Assistant Directors of Mines and Geology through the Director of Mines & Geology, Hyderabad.

The General Administration (Cabinet) Department.

Sc/Sf

//FORWARDED:: BY ORDER//

SECTION OFFICER

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

GOVERNMENT OF TELANGANA
DEPARTMENT OF MINES AND GEOLOGY::HYDERABAD

Letter No.1247095/P/2021

Dated:16.04.2022

From
Director of Mines & Geology (FAC),
2nd Floor, Myhome Sarovar Plaza,
Opp: Secretariat, Hyderabad.

To
The Chief Engineer,
(P.W.D) Central Public works
Department. Kendriya Sadan, Sultan
Bazar, HYDERABAD.

Sir,

Sub:- Mines & Minerals - Amendments to Telangana Minor Mineral
Concession Rules, 1966 - Enhancement of Seigniorage Fee
and Introduction of Permit Fee - Orders Communicated - Reg.

Ref:- 1.G.O.Ms.No.18, Ind. & Com. (M.I) Dept., dated 31.03.2022.
2.G.O.Ms.No.21, Ind. & Com. (M.I) Dept., dated 31.03.2022.

I invite attention to the subject & references cited. Through the
reference 1st cited, the State Government enhanced the Seigniorage Fee on
Minor Minerals.

Through the reference 2nd cited, the State Government introduced
Permit Fee payable alongwith seigniorage fee in addition to Seigniorage Fee,
DMF & SMET at the rate of 0.8 times of Seigniorage Fee for all Minor
Minerals except Colour Granite, Black Granite & ordinary Sand and at the
rate of 0.4 times of Seigniorage Fee for Colour Granite and Black Granite.

In view of the above, it is requested to issue necessary instructions to
all the Govt. Engineering/Consuming Depts. for remittance/deduction of
enhanced Seigniorage Fee alongwith Permit Fee on Seigniorage Fee for the
Minor Minerals consumed by the Engineering Departments w.e.f. 01.04.2022
for on-going projects, approved projects but yet to be ground and projects
under pipeline in the following Head of Accounts:

Sl No	Item	Head of Account (Treasury)
1	Seigniorage Fee	0853-102-02
2	Permit Fee	0853-102-81

Further, any clarification by the circle or District Heads of Govt.
Engineering Departments on remittance of Enhanced Seigniorage Fee and
payment of Permit Fee may contact concerned District Assistant Directors of
Mines & Geology.

Yours faithfully
Sd/- M Venkateshwarlu
for Director of Mines & Geology

रा.प्र.अ.	क्र.सं.:	अ.सं. (पि.)	उ.अ.
AAO	S.O.	EE(Civil)	CE
May 11/4/22			K. N. S. Rao

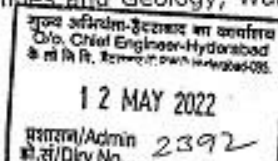
//Attested//

for Director of Mines and Geology

Copy to the Director, Directorate of Works & Accounts, AC Guards,
Hyderabad for information and necessary action.

Copy to all Asst. Directors of Mines and Geology in the State for information
and necessary action.

Copy to the Deputy Director of Mines and Geology, Warangal, Hyderabad &
Nizamabad for information.



AE(C)	AE(E)	EE(C)		

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LIST SHOWING PREFERRED BRANDS/MANUFACTURERS/MAKES

**PREFERRED MAKE OF MATERIALS
(FOR CIVIL WORKS)**

NOTE: -

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 and subject to Approval of the alternate Brand by the Engineer In charge.

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.

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, and the products shall be used. To achieve this, proper check on the quality of the product, actually to be used, should be exercised.

List of Preferred Materials for (CIVIL) as approved by competent authority.			
Sl. No.	Material Description	Material	
		Brand	Makes *
1	AAC Blocks	A B Dinesh	A B Dinesh
		Areocon	HIL
		Bilt	Bilt
		Ecorex	Ecorex
		Fastbuilt	Fastbuilt
		Kncrete	Koncrete
		NCL	NCL VEKA Ltd.
		Nucon	Green Way building materials India Pvt. Ltd.
		Renacon	Renaatus Procon Pvt. Ltd.
		Ultratech "XTRALITE"	M/s. Ultratech Cements Ltd.
		Siporex	SIPOREX
		Xtralite	Ultra Tech Cement Ltd
		PRIME	M/s ECO-care Building Products(P) Ltd.
2	Acoustic Insulation	Anutone	Anutone Acoustics Ltd.

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

		Himalyan Accoustics	Himalyan Accoustics
		Kanuf	Knauf Gypsum India Pvt. Ltd.
		Lloyd Insulation	Lloyd Insulation (India) Ltd.
		Saint Gobain Gyproc	Saint Gobain Gyproc India
		Twingerinsul	U.P. Twiga fiber glass Ltd.
3	Actativ polypropylene (APP) Modified water proof membrane	Ardex endure	Ardex endure
		Bitumat Co Ltd	Bitumat Co Ltd
		Ferrous crete	Ferrous Crete (India) Pvt Ltd
		Hydrotech ltd	Hydrotech ltd
		Pidilite	Pidilite industries
		STP	Shalimar tar products
4	Premium Acrylic emulsion	Asian Premium emulsion (Apolite)	Asian paint
		Berger (Easy Clean)	Berger Paints
		Dulux (Super Cover)	ICI Dulux
		Nerolac (Beauty Gold)	Nerolac
5	Acrylic smooth exterior paint	Apex	Asian Paints
		Berger	Berger
		Dulux	ICI duLux
		Nerolac	Nerolac
		Nippon	Nippon
6	Acrylic Distemper	SURFA	M/s.Surfa Coats (India) Pvt. Ltd., Bangalore.
7	Acrylic textured plaster	Apex Duracast	Asian Paints
		Asian paints	Asian Paints
		Heritage	Heritage Rajkamal Group
		Nerolac	Nerolac
		Spectrum paints	Spectrum paints Ltd.
8	Acrylic exterior Texture	Akzonobel	Akzonobel
		Asian paints	Asian paints
		Berger	Berger paints India ltd
		Ebco	Ebco
		Nerolac	Nerolac paints Ltd.
9	Adhesive	Asian Paints	Asian Paints

Cor	NIL		Ins	NIL
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AE(C)	AE(E)		EE(C)	

		CICO	CICO Industries
		Dunlop	India Tyre & Rubber Co (India) Ltd.
		Finical	Pidilite Industries
		Proofex of Adhesive	FOSROC India
		Sika	Sika India Pvt. Ltd
		Vamorganic	Vamorqanic Ltd.
10	Adhesive for AAC Block/Tiles	Ardex Endura/Gold star	Ardex Endura
		Ferrous Crete	Ferrous Crete (India) Pvt Ltd
		Tile Adhesive Plus	Berger Paints
		Ultra tech	Ultra tech cement ltd
		V-BOND Tile Adhesive	Value Pack India Pvt Ltd
11	Air transfer grills	Cool grills	Cool grills, Pune
		Systemair India	Systemair India Pvt Ltd.
12	Air release valve	Kartar	Kartar valves private Ltd.
		Kirloskar	Kirloskar brothers Ltd.,
		RBM	AFS Ltd
13	Aluminium doors/ windows sections	Bhoruka	Bhoruka Aluminium Ltd.,
		Hindalco	Hindalco Industries Ltd..
		Hydro	Hydro Extrusion
		INDAL	Indian Aluminium Ltd.,
		Jindal	Jindal Aluminium Ltd,
		Omalco Extrusion	Omalco Extrusion Pvt Ltd.
		Padmavati Exrusion	Padmavath Extrusion Private Ltd.
14	Aluminium system/ Anodised Aluninium fittings for doors/ windows	Bhoruka	Bhoruka Aluminium Ltd.,
		Define	Define Overseas Pvt. Ltd.
		Everite	Everite Agencies
		Hardima	Hardima sales corporation
		Jyothi	Jyothi industries
		Kawneer	Kawnear India
		Schueco	Schueco India Pvt. Ltd.,
		Sigma	Sigma Corporation
15	Aluminium composite panels	Alpolic	Alpolic
		Alstone	Alstone

Cor	NIL		Ins	NIL
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AE(C)	AE(E)		EE(C)	

		Alstrong	Alstrong
		Alex panel	M/s Alex Panels
		Alucobond	3A composites India Pvt Ltd.
		Aludecor	M/S Aludecor lamination Pvt ltd.
		Eurobond	M/S Euro panel products Pvt ltd.
		Eurobond	Eurobond pvt Ltd.
		Hynadecor	Hynadecor
		Reynobond	Reynobond
		VIRGO	M/s VIRGO Laminates Ltd.
		ALUTECH	M/s Alutech industries
16	Aluminium framework	MFE (MIVAN)	(MIVAN)
		MFS	MFS
		S-form	S-form
17	Anchor/ SS Stone Cladding Clamps/ Dash fasteners	Anchor	Anchor Ltd.
		BOSCH	BOSCH Ltd.
		Canon	Canon
		Fischer	Fischer India
		Helfen	Helfen Gmbh
		Hilti	Hilti India Pvt. Ltd.
		Nutech	Nutech Concrete Products Pvt. Ltd.
		Trixel	Axel India Pvt. Ltd.
		Wurth	Wuerth India Pvt. Ltd.
18	Anti corrosive bit mastic paint	Bergar	Berger paints India Ltd
		Bituminous black	Asian Paints
		Shalimar	Shalimar paints India Ltd.
19	Butt Hinges openable window shutters	Alu Alpha	Alu Alpha India
		Dorma	Dorma India Pvt. Ltd.
		Dorset	Dorset Industries Pvt. Ltd.
		Earit Bihari	Earit Bihari India Pvt. Ltd.
		Hafela	Hafele India Pvt. Ltd.
		Helix	Helix India
20	Bamboo Wood Flooring and wall paneling.	AMITEX	AMITEX Enterprises, Delhi.
		Eco green Flooring	Jupiter Traders Bangalore.

Cor	NIL		Ins	NIL
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		Epitome Bamboo wood Products	Mutha Industries Pvt. Ltd., Mumbai.
		Floor India	Flooring India Company, Panipat, Haryana.
		FLOSTO Tanks	Devi Polymer Pvt. Ltd., Chennai.
		VIVANTA	VIVANTA Enterprises, Mumbai.
21	Bamboo Products (Flooring, Skirtings, Claddings, Shutters, Panels, Door Frames.	EPITOME	M/s. Mutha Industries Pvt. Ltd.
22	Cement OPC / PPC	Ambuja Cement	Ambuja Cements Ltd.
		ACC	ACC Cements Ltd
		Bharathi	Bharathi Cement Corporation Ltd.
		Birla	Birla Corporation Ltd
		Century Cement	Birla Gold Cement
		Chettinad	Chettinad Cements Corporation Ltd
		Coromandal	India Cements Ltd.
		Dalmia	Dalmia Cement Bharat Ltd.
		Jaypee Cement	Jaypee Cement Ltd
		J.K. Cement	J.K. Cement Pvt. Ltd.
		Konark Cement	Konark Cement
		Maha Cement	Myhome Industries Pvt. Ltd.
		Penna Cement	Penna Cement Industries Ltd.
		Ramco	Ramco
		Shree Cement	Shree Cement
		Ultra Tech	Ultra Tech Cement Ltd
		Zuari	Zuari Cement Limited
		Nagarjuna Cement	M/s. NCL Industries Ltd, Secunderabad.
		SAGAR CEMENTS	M/s.Sagar Cements Limited, Hyderabad.
		NU VISTA / INFRACEM	M/s. NU VISTA Ltd., (Formerly M/s. Emami Cements Limited), Bhubaneswar.
		Anjani	M/s Anjani port land Cement Ltd, Hyderabad
		JSW	M/s. JSW Cement Ltd.,
		RAMCO	M/s THE RAMCO CEMENTS LIMITED
		PRIYA CEMENT	M/s RAIN CEMENTS LIMITED.
23	Cement (OPC (43 grade) & PPC)	NU VISTA / INFRACEM	M/s. NU Vista Ltd.

Cor	NIL		Ins	NIL
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AE(C)	AE(E)		EE(C)	

24	Cement Concrete Parking Tiles	Dazzle	Dazzle Designer tiles Pvt Ltd
		Eurocon	Eurocon tiles India
		Hindustan tiles	Hindustan tiles, Ranchi Pune
		NTC	NTC Parking tiles
		NITCO	NITCO Ltd
		Poddar	Poddar Udyog
		Ultra	Ultra tile private Ltd
		CEMTECH	M/s. Cemtech Tiles, Uppal, Hyderabad.
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
25	Cement based wall putty	Altek	NCL Alltek & seccold Ltd.
		Ardex Endura	Ardex Endura India Pvt. Ltd.
		Asian paints	Asian paints Ltd
		Berger	Berger
		Birla Wall Care	Birla Cements Ltd.,
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd
		J.K wall putty	J.K. Cement Ltd
26	Cement Board	Bison	Bison Group
		Everest	Everest Techno polis
27	Cement Primer	Asian paints	Asian Paints
		Berger	Berger paints India Ltd.
		JK Primaxx	JK Cement Ltd
28	Centrifugal Hubless Cast Iron Pipe & Fittings	Kapilansh	Kapilansh Dhattu Udyog (P) Ltd.
		NECO	Jayaswal NECO Ltd.
		Raj (RPMF)	Raj Pattern Makers and Founders Pvt.,Ltd.
		SKF	Singhaliorn Foundary Pvt.,Ltd.
		BIC	M/s. Bengal Iron Corporation, Kolkata.
29	Centrifugally (Spun) cast Iran	Electrosteel	Electrosteel castings Ltd.
		Jindal	Jindal saw Ltd.
		Kesoram	Kesoram Industries Ltd.
		Lanco / Sripipes	Electrosteel castings Ltd.
30	Centrifugally Caste (Spun) Iron Soil Pipe	Bengal Iron Corporation	Bengal Iron Corporation
		HEPCO	HEPCO

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		Kapilash	Kapilash Dhatu Udyog (P) Ltd.
		Neco	Jayaswal Neco Ltd
		RPMF	Raj Pattern Makers and Founders Pvt. Ltd
		SKF	SKF industries
31	Chemical water proofing system	BASF	BASF India Ltd.
		Dr. Fixit	Pidilite industries
		Ferrous Crete	Ferrous Crete (India) Pvt Ltd.
		Fosroc	Fosroc India
		Latex shield 2K/Tank shield PW	Berger Paints Ltd.
		MC- Bauchemie	MC- Bauchemie India Ltd.
		Perma construction Aid	Perma construction Aid Pvt Ltd
		Sika	Sika India
		Smart Care	Asian Paints Ltd.
		Sunanda speciality coating	Sunanda speciality coating Pvt Ltd.
32	Chloropyriphos	DURSBANTCT	DE-NOCIL Ltd.
		HILBAN	Hindustan Insecticides Ltd.
		NOBAN	Chemtts Wets & Flows Pvt. Ltd
		PIRAMID	AMVAC AGRI RASAYAN Pvt. Ltd.
		Premise Agenda	Bayer Ltd.
		Sarups Pest Control	Sarups Pest Control Ltd.
33	CI double flange sluice valve	BURN	BURN
		IVS	Indian Valves Private Ltd.
		Kartar	Kartar valves private Ltd.
		Kirloskar	Kirtoskar brothers Ltd.
		Leader	leader valves Ltd.
		RBM	AF-S LL,
		Zoloto	Zoloto Industries
34	CI double flangad non ratur valve	Fluidtech	Fluidtech
		Kirloskar	Kirloskar Brothers Ltd.
		Zoloto	Zoloto Industries
35	CI Manhole cover	BIC	Bengal iron corporation
		HEPCO	HEPCO India
		Neco	Jayaswal Neco Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		RPMF	M/s Raj Pattern Makers & Founders Pvt. Ltd.
		SKF	SKF Industries
36	Clamp, Rebar, Chemical fastener	Fischer	Fischer India
		Hilti	Hilti India Pvt.Ltd.
		Wurth	Wuerth
37	C.P. Brass Fittings	CERA	M/s Cera Sanitaryware Ltd.
		ESS Bathsense & Royal	Asian Paints Ltd.
		Hindware	HSIL Ltd.
		Jaquar	Jaquar Group
		Johnson	Prism Johnson Ltd.
		KEROVIT	M/s Kajaria Ceramic Limited
		Kingston	Kingston Brass India Pvt., Ltd.
		MARC	MARC Sanitation Pvt.Ltd.
		Parryware	Parryware Sanitaryware
		PLAYER	M/s.Status Sanitech Pvt. Ltd
38	CPVC pipes and fittings	Ashirwad	Ashirwad PVC Pipes
		Astral	Astral Polytechnik Ltd..
		Birla Aerocon	HIL Ltd.
		Finolex	Finolex Industries Ltd.
		Flowgard	Flowgard
		Prince	Prince Pipes and fittings Ltd.,
		Supreme	Supreme Industries Ltd.
		Truflo	HIS Ltd.
		AKG	M/s. AKG Extrusions Pvt. Ltd.
		TRUFLO	M/s.HINDWARE LIMITED
		Birla Hil Pipes	M/s. Hil Ltd.
		SUDHAKAR	M/s. Sudhakar Irrigation Systems Pvt. Ltd.
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
		SENTINI	M/s. Sentini Flopipes India Pvt. Ltd.
39	Concealed tower bolt	Alu Alpha	Alu Alpha India
		Dorma	Dorma India Pvt. Ltd.
		Dorset	Dorset Industries Pvt. Ltd.
		Ingersolrand	Ingersolrand (India) Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

40	Crystal line water proofing compounds	KRYTON	M/s.Kryton Buildmat Co. Pvt. Ltd., Gurugram, Haryana.
41	CC Kerb Stone	CEMTECH	M/s. Cemtech Tiles, Uppal, Hyderabad.
42	Damp Proof material	ACCO Proof	ACC Cements Ltd
		Asian Paints smart care damp proof	Asian Paints Ltd.
		BASF	BASF India Ltd.
		CICO	CICO Industries
		Dr. Fixit	Pidilite Industries
		Duraseal	Apurva India Pvt. Ltd.
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Fosroc	Fosroc Chemicals India Pvt. Ltd.
		Impermo	Snowcem Paints
		MAPEI	MAPEI Construction Products India P Ltd
		MYK	MYK LATICRETE India Pvt. Ltd.
		PIDILITE	Pidilite Industries
		SIKA	Sika India Pvt. Ltd.
		Weather Coat Roof Guard	Berger Paints India Ltd.
43	DI Fittings	Electro steel	Electro steel
		Jindal	Jindal
		Kapilansh	Kapilansh
		Keshoram	Keshoram
		Tata Ductura	Tata Ductura
44	DI Pipes	Electrosteel	Electrosteel
		Jindal	Jindal
		Keshoram	Keshoram
		Tata Ductura	Tata Ductura
45	Engineered wood floor	Amstrong	Amstrong flooring
		Mikasa Real wood floors	Grean Lam Industries
		New wood	Naw Wood India ltd
		Pergo	Red floor India
		Werner	Dura floor wemer GmbH
46	EPDM Gaskets	Amee Rubber	Amee Rubber industries Pvt Ltd

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Anand	Anand NVI-I products (P) Ltd.,
		Bohra	Bohra rubber Pvt Ltd..
		Hanu	Hanu Industries
		Roop	Roop Polimers Ltd.,
47	EPDM water proofing Membrane	Ferrous Crete	Ferrous Crete (India) Pvt Ltd
		Fosroc	Fosroc India
		Pidilite	Pidilite Industries
		Smart care	Asian paints
		STP	Shalimar tar products
48	Epoxy	Ardex	Ardex Endura Ltd.
		Asian paints	Asian paints
		CICO Poxy	CICO Technologies Ltd.
		Ferrous Crete	Ferrous Crete (India) Pvt Ltd.
		Fosroc	Fosroc India
		Shalibons	Shalimar tar products
		SUNANDA	M/s Sunanda Specialty Coatings Pvt. Ltd.
49	Epoxy Paint	Ardex Endura	Ardex Endura India Pvt. Ltd.
		Asian epoxy	Asian Paints
		Berger	Berger paints India Ltd.
		Nerolac	Nerolac
		Shalimar	Shalimar paints India Ltd.
		STP Ltd.	Shalimar Tar Products
50	Epoxy tile joint cements	Ardex Endura	Ardex Endura India Pvt. Ltd
		BASF	BASF India Ltd.
		Ferrous Crete	Ferrous Grete (India) Pvt. Ltd
		Fosroc	Fosroc indd
		Laticrete	MYK Laticrete India
51	Expansion Joint Bitumen board	Dura Board HD100	Supreme Industries
		DURAFILL	Supreme Industries
		STP	Shalimar Tar Products
52	Exterior Emulsion Paint	SURFA	M/s. Surfa Coats (India) Pvt. Ltd., Bangalore.
53	False Ceiling	Aerolite	Andhra Polymers Pvt. Ltd./ Aerolite Industnas Pvt. Ltd.
		Armstrong	Armstrong Wond Indusvies

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Diamond (GRG Tiles)	Diamond International Inex Pvt. Ltd.
		Gridsquare	Gridsquare Ceilings
		Gypframe steel	British Gypsum
		Knauf	Knauf Gypsum India Pvt. Ltd.
		Lloyd	Lloyd Insulation (India) Ltd
		Saint Gobain	Saint Gobain Gyproc
54	False ceilings Members (Perimeter, Ceiling section, intermediates, angles etc.,)	Aerolite	Andhra Polymers Pvt. Ltd./ Aerolite Industries Pvt. Ltd
		Anutone	Anutone Accoustics Ltd.
		Armstrong	Armstrong World Industries
		Gridsquare	Gridsquare Ceilings
		Hunter Dougals	Hunter Dougals
		Knauf	Knauf Gypsum India Pvt. Ltd.
		Saint Gobain Gyproc	Saint Gobain Gyproc India
		USG Boral	USG Boral
55	False Floor	Access floor sytem	Access Floor system
		Hewetson	Hewetson India
		Kebao	Inner Space (Distributors)
		PINNACLE	PINNACLE
		Unifloor	Unifloor India Ltd.
		Unitile	Unitile office systems Pvt. Ltd.
56	Fire Rated hardware / Fire Rated Smoke check doors (MS/Wooden)	Backers FS	Backers FS
		Dorma	Dorma India Pvt. Ltd.
		Dorset	Dorset Industries Pvt. Ltd.
		Geze	Geze GMBH
		ASES (Agni Suraksha)	M/s. ASES Security Pvt. Ltd.
		Ingersolrand	Ingersolrand (India) Ltd.
		ASES (Agni Suraksha)	M/s. ASES Security Pvt. Ltd., Ghaziabad.
57	Fire rated glass	Contra Flam / Pyroswiss of Saint Gobain	Saint Gobain India Pvt. Ltd.
		Pilkinton	Pilkinton India
		Promat	Promat Fire & Insulation (P) Ltd.
		Pyran of Schott	Schott glass India Pvt. Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

58	Fire retardant paint	Akzonobel	Dulex Akzonobel Paints
		Asian paints	Asian Paints
		Hilti	Hilti India Pvt. Ltd.
		Jotun	Jotun paints
		STPL Ltd.	STPL Ltd.
59	Fire Smoke Seal	Atroflame	Atroflame ltd.
		Hilti	Hilti India Pvt. Ltd.
		Promat	Promat Fire & Insulation (P) Ltd.
		Raven	Raven Global
60	Float Glass (Tansparent)	Saint Gobain	Saint Gobain India Pvt. Ltd.
		Asahi	Asahi India Glass ltd.
		SISECAM	M/s. Sisecam Flat Glass India Pvt. Ltd.
		Pilkinton	Pilkinton India
		Modiguard	Gujarat Guardian Ltd.
		Gold Plus	M/s. Gold Plus Glass Industry Ltd., New Delhi.
61	Float Valve (Ball valve)	Arco	Arco valve Pvt ltd
		IBP	IBP industries
		Leader	Leader valve Ltd
		Zoloto	Zoloto industries
62	Floor spring (For non DSR Items)	Dorma	Donna India Pvt Ltd.
		GEZE	GEZE GmbH
		Ingersolrand	Ingersolrand India Pvt Ltd
		OZONE	Ozone Hardware.
63	Flushing Cistern	Bath sense	Asian Paints
		CERA	CERA Sanitary ware Ltd.,
		Hindware	HSIL Ltd,
		Jaquar	Jaquar Group
		Kohler	Kohler
		Parryware	ROCA Bath Pvt. Ltd.,
		Somany	Somany
64	Fly ash cement bricks (Non Modular size)	Concerned CE/SE's will approve based on local availability.	
65	FRP Door Frames shutter	Ambieance	Ambieance
		Cactus	Cactus

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Duroplast	Duroplast Extrusion pvt ltd.
		Jain doors Pvt. Ltd.	Jain doors Pvt. Ltd.
		Jayna	Jain wood industries
		Meena fibre glass	Meena fibre glass
		Polyline	Polyline
66	Friction stay hinges	Earl Bihari	Earl Bihari Pvt. Ltd.
		KINLONG	Kinlong Industriss
67	FRP covers	Everlast Composites	Everlast Composites Pvt.,Ltd.
		Fibrocast	Fibrocast FRP cover manufacturer
		Thermodrain	Poly products (I) Pvt.,Ltd.
68	Fibre Reinforced Elastomeric Liquid Waterproofing Membrane	KRYTON	M/s. Kryton Buildmat Co. Pvt. Ltd., Gurugram, Haryana.
69	FLUX – Polycarbonate Panel	DPI – FLUX	M/s. DPI Day lighting Pvt. Ltd., Gurugram, Haryana.
70	Galvolume sheet for roofing, cladding, sandwich panel	Bhushan	Bhushan steel
		Essar	Essar Group
		JSW	JSW
		Llyod metal craft	Llyod Insulation
		Tata Blue Scope	Tata Blue Scope
71	Galvanising	Jenco	Jenco Group
		Karamtara	Karamtara Engineering Pvt.,Ltd.
		Steel lite	Galvanized Steel Ltd.
72	G I Pipe fittings	HB	HB Industries
		ICS	Sgree samarth Englnears
		Surya	Surya Roshni Ltd.
		TATA	TATA Steel Ltd.,
		Unik	Unik malleable
		Zoloto	Zoloto Industfiea
73	G.I. Pipes	HISSAR	HISSAR
		Jindal	Jindal Pipes Ltd.,
		Surya	Surya Roshni Ltd.
		TATA	TATA Steel Ltd.,
		Zenith	Zenith Birla (India) Ltd.
74	Glass door hardware	Classic	Classic Hardware
		Dorma	Dorma India Pvt. Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Dorset	Dorset Industries Pvt. Ltd.
		Geze	Geze GMBH
		Godrej	Godrej
		Hafele	Hafele India Pvt. Ltd.
		Kich	Kich Architectural Products Ltd.
		Ozone	Ozone Hardware
		Squash	Squash glass doors
75	Glass mosaic tiles	Birla White	Birla Corportion Ltd.
		Bisazza	Bisazza Italy
		Coral	Coral tiles
		Italia	Tie italia mosaic Pvt Ltd
		JK White	JK Cement ltd.
		Mridul	Mridut tiles
		Paljadto	Palladto Mosaics
		PAVIT (Eco Tile)	PAVIT Ceramics Pvt Ltd.
76	Glazed Ceramic tiles (Also wall tiles)	AGL	Asian Granite India Ltd.
		CERA	CERA Sanitaryware Ltd
		Jonson	Prism Jonson Ltd.
		Kajaria	Kajaria Ceramic Ltd.
		NITCO	NITCO Ltd.
		Oasis	M/s Oasis Vitrified Pvt.Ltd.
		Orient Bell	Orient Bell Ltd.
		RAK	RAK Ceramic India Pvt. Ltd.
		Somany	Somany Ceramic Ltd.
		Varmora Granito	Varmora Granite Granite Pvt. Ltd.
		Vitero	Vitero Tiles Floor and Wall Tile Manufactures India
		Ultra	Ultra Ltd.
		NAVEEN	M/s. Murudeshwar Ceramics Ltd., Bangaluru.
77	GRC Jali & Tile	Ecovision	Ecovision Industries Pvt ltd.
		Mahesh GRC	Mahesh Prefab Pvt Ltd.
		Terrafirma	Terrafirma GRC Industries
		Unistone	Unistone Interiors Pvt.,Ltd.
78	GRP/SMC Panel Tank (New product in	AMITEX	AMITEX Enterprises, Delhi.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

	the market performance is yet to be established)	FLOSTO Tanks	Devi Polymer Pvt., Ltd., Chennai.
		PIPECO Tanks	PIPECO Tanks
		VIVANTA	VIVANTA Enterprises, Mumbai.
79	Grout / Non shrink grout	Asian Paints - Smart casre	Asian Paints Pvt. Ltd.
		Ardex	Ardex Endura Adhesive India Pvt. Ltd.
		BASF	BASF India Ltd.
		CICO	CICO Industries
		Dr. Fixit	Pidilite Industries
		Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Fosroc GP2	FOSROC India
		Fugabella, Porcelana	Kerakoll India Pvt. Ltd.
		Home shield super grout	Berger Paints India Limited.
		LATA POXY	MYK LATICRETE India Pvt. LTd.
		MYK Schomburg	MYK Arments Range of products
		SIKA	Sika India Pvt.Ltd.
		Weber	Saint Gobain India Pvt. Ltd.
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
80	Gun metal Valves	Audco	L&T Valves
		Leader	leader valves Ltd ,
		Sant	Sant Valaves Pvt. Ltd.
		Zoloto	Zolota Industries
81	Gypsum Board	Armstrong	Armstrong world Industries
		Gyproc Saint Gobain	Saint Gobain Gyprock India Ltd.
		Lafarge	Lafarge Gypsum India Pvt. Ltd.
		USG Boral board	USG Board India (P) Ltd.
82	Gypsum plaster	Ferrous crete (Ferro-500, Gypsum) Plaster)	Ferrous crete manufacturers
		Gyproc Saint Gobain (Elite 90)	The Saint-Gobain group
		Ultra tech	Ultra Tech Cement Ltd.
83	GRG False Ceiling Tiles	Diamond (GRG Ceiling Tiles)	Diamond International Inex Pvt. Ltd
84	Heat resistant tiles on terrace	ABC Ceramics	ABC Ceramics
		Endura	Johnson India
		Johnson	Johnson India

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Somany	Somany Ceramic Tiles
		Swastik	Swastik Tiles
		Thermatek	Thermatek
85	High Desity (HDF) Prelaminated board	Armstrong	Armstrong world industries Ltd.
		Green ply	Green Ply Industries Ltd.
		Pergo	Red Floor India
86	High end exterior Texture	Allura/ Graniza range	Asian paints
		Berger	Berger paints India ltd
		SKK Brand	SKK Ltd
87	Hydraulic door closers/ Floor springs	Dorma	Dorma India Pvt. Ltd.
		Dorset	Dorset Industries Pvt. Ltd.
		Everite	Everite agencies
		Godrej	Godrej locking solution & systems
		Hardwyn	Hardwyn hardware
		MAGNUM KIT	Mukund Overseas
88	Interlocking Concrete Paver Blocks / CC Paver Blocks	Basant Betons	Basant Betons
		BHARAT (NILSON)	Bharat
		Dazzie	Dazzle Designer tiles Pvt Ltd
		Hindustan tiles	Hindustan tiles, Ranchi Pune
		NITCO (ROCKARD)	NITCO
		REGENCY	Regency
		Shree	Shree Bharat Paver blocks
		Ultra	Ultra tile private Ltd
		Vyara Tiles	VYARA Tiles Pvt. Ltd. / Surat
		Any alternative tiles as approved by CE/SE based on local availability.	
89	Interior Emulsion Paints	CEMTECH	M/s.Cemtech tiles, Uppal, Hyderabad.
		SURFA	M/s. Surfa coats (India) Pvt.Ltd., Bangalore.
90	Laminate, Laminate wooden flooring	Archid ply	Archid ply industries ltd.
		A1 Teak	A1 Teak Products Pvt.,Ltd.
		Century	Centuray laminates
		Decolam	Decolam India Pvt. Ltd.
		Formica	Formica Laminates (India) Pvt. Ltd.
		Green Lam	Green lam Industries Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		KANCHAN PLY	M/s Vidya Ply & Board Pvt. Ltd
		SISECAM	M/s.Sisecam Flat Glass India Pvt. Ltd.
		Kitmica	Kitply Industries Ltd.
		Merino	Merino laminates
		Royal touche	Royal touche laminates
		Sonear	Sonear Laminates
		Sunmica	Sunmica Industries
		Action TESA	M/s. Balaji Action Buildewell Pvt. Ltd.
91	Linoleum sorts flooring	Armstrong	Armstrong flooring India Pvt. Ltd.
		Forbo	Forbo Flooring India Pvt. Ltd.
		Gerflor	Gerflor flooring
92	Locks & Latches	Dorset	Dorset Industries Pvt. Ltd.
		Godrej	Godrej locking solution & systems
		Hafele	Hafele India Pvt. Ltd.
		Harrison	Harrison locks
		Hitech	Globe Locks India
		Helix	Helix India
		Link	Link Locks
		Plaza	Bharat lock House
		Yale	ASSA ABOLOY India (P) Ltd.
93	LT Panels (TTA/PTA)	APPLICATION	M/s. Application control panels Pvt. Ltd.
94	Laminates	DECO-MICA	M/s. Deco-Mica Ltd.
95	Masking Tapes	3M	3M
		Roop	Roop Polymer Ltd.
		Sun	Sun
		Wonder polymer	Wonder Tape Industries
96	Melamine Polish	Asian paints	Asian paints
		Melamine Gold Wudfin	Pidilite industries
		Polycure	Polycure Malaysia
97	Mechanical coupler for reinforcement	Dextra	Dextra India Pvt Ltd.
		Sanfield	Sanfield India Ltd.
		Alchemica	Alchemica Ltd.
		Ardex Endura	Ardex Endura Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Asian paints	Smart care water proofing products
98	Membrane water proofing system	BASF	BASF India Ltd.
		Dr. Fixit	Pidilite industries
		Ferrous Crete	Ferrous Crete (India) Pvt Ltd.
		Hydro tech	Hydro tech Ltd.
		MYK Schomburg	MYK Arments range of products
		STP Ltd	Shalimar tar products
		Texsa	Texsa India Ltd.
99	Metalic / Steel Fire Door	Godrej	Godrej Security Solutions
		Kenwood	Kenwood Ply & Board
		MPP Schodders	MPP Technology Pvt. Ltd.
		NAVAIR	NAVAIR International Pvt. Ltd.
		Promot	Promot fire & Insulation (P) Ltd.
		Shakthi Hormann	Shakthi Hormann Pvt. Ltd.
		Signumfire Protection	Signumfire Protection pvt. Ltd.
		Sukri	Sukri Fire Doors Pvt. Ltd.
100	Metal Deck Sheet	Essar	Essar Steel Ltd.
		JSW	JSW Structural Metal Decking Ltd
		SAIL	SAIL
		TATA	TATA steel
101	Mild Steel Butt Hinges/ Piano hinges	Amit	Lovely metal Industries Pvt. Ltd.
		Deepak	Deepak
		Garg	D.P. Garg & Company
		Jolly	Jolly Engineering works
		Jyoti	Jyoti Architectural Pvt. Ltd.
		Saswat	Saswat
		Supreme	Supreme Industries
		Swift	Swift screws
102	Mirror	AIS Mirror	Asahi India Glass Ltd.
		Atul	Autl Glass Industries Ltd.
		Modi Guard	Gujarat Guardian Ltd
		Saint Gobain	Saint Gobain Glass India Ltd.,
		SISECAM	M/s.Sisecam Flat Glass India Pvt. Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Gold Plus	M/s. Gold Plus Glass Industry Ltd., New Delhi.
103	Modular kitchen/ wardrobes/Hardware and Accessories	Evoke	Evoke
		Godrej	Godrej & Boyce co
		Sleek	Asian Paints
		Spacewood	Spacewood
104	M.S. Pipe, Tubes	Apollo	Appolo Tubes Ltd.
		JINDAL	JSW
		Kalinga	Kalinga Tubes Ltd.
		SAIL	SAIL
		Surya	Surya Roshi Ltd.
		TISCO	TATA STEEL
105	Multy walled polycarbonate roofing sheets	Danapalon	Danapal Light architecture
		Lexan GE	GE lexan
106	Non Asbestos Sheets	Everest	Everest Industries
		HIL	HIL Ltd.
		RAMCO	RAMCO Industries Ltd.
107	Non Metalic Fire door	Godrej	Godrej Security Solutions
		Kenwood	Kenwood Ply & Board
		NAVAIR	NAVAIR International Pvt. Ltd.
		Promot	Promat Fire & Insulation (P) Ltd.
108	Non Metallic floor surface hardness	BASF	BASF India Ltd
		CICo	CICO Technologies ltd
		Fosroc	Fosroc India
		Hardonite	Hardonite
		Ironite	Ironite
		Pidilite	Pidilite Industries ltd
		Sika	Sika India
109	Oil Bound Distemper	Berger (BISOM)	Berger Paints
		Dulux (Maxilite)	Dulux
		MG Polyplast	Nerolac
		Tractor Aqalock	Asian Paint
110	Overdeck insulation with extruded polystyrene board (XPS board)	Dowcorning	Dowcorning
		Owen scorning	Owen scorning

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Supreme Petrochemical Ltd.	Supreme Petrochemical Ltd.
111	Panel Doors/Wire mesh Door shutters / Fire proof doors	Jain doors	Jain Door Pvt. Ltd.
		NCL	Nagarjuna
112	PE-AL-PE Composite Pipes	Kitec	Kitec Industries (India) Pvt. Ltd.
113	Pink primer/Primer	Berger	Berger Paints
		Dulex	ICI dutax
		Nerolac	Nerolac Kansia Nerolac Pains Ltd.
		Nippon	Nippon
		Wood primer	Asian paint
		SURFA	M/s. Surfa Coats (India) pvt. Ltd., Bangalore.
114	Plasticiser & Super Plasticiser	BASF	BASF India Ltd.
		Chryso-HP/ Delta / Optima	Chryso India Pvt. Ltd.
		CICO	CICO Industries
		Contrament, Power flow	MC Bauchemie (India) Pvt. Ltd.
		Conplast SP 430	FOSROC India
		MYK Schomburg	MYK Arments Range of products
		Plastiment, Sikament	Sika India Pvt. Ltd.
		Smart Care Techno Plast/Smart care maximo plast.	Asian Paints Limited
		Sunanda Chemicals	Sunanda Chemicals Ltd.
115	Plastic Encapsulated Foot Rest	Accurate Buildcon	Accurate Buildcon company
		KGM	KGM Exports
		KK India	KK Manhole and gratings Co Pvt Ltd.
116	Play Equipments	Koochie Play	Koochie Play systems Pvt ltd.
		Play world systems	Play world systems India.
117	Ply wood (commercial Ply for general purpose)	AAMODA	M/s. Jai Dayal Plywood Pvt.Ltd., Hyderabad.
118	Ply wood (Marine Grade - BWP Ply)	AAMODA	M/s. Jai Dayal Plywood Pvt.Ltd., Hyderabad.
		BLACK COBRA	M/s.Punjab Plywood Industries, Yamunanagar, Haryana.
119	Post tensioning System	BBR	BBR (India) Pvt. Ltd.
		CRUX	Crux Processing systems Pvt. Ltd.
		Ultracon	Ultracon Structural Systems Pvt. Ltd.
		VSL	VSL India pvt. Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

120	Poly carbonate Sheet	Alcox	Hindeggan Alcox Ltd.
		Danapalan	Danapal Light architecture
		GE Lexon	GE Silicones
		MG Polyplast	MG Polyplast
121	Polycarbonate Convex mirrors, Rubbarised road hump	Unique safety solutions	Unique safety solutions
122	Poly sulphide sealant	Dr. Fixit	Pidilite industries
		Ferrous Crete	Ferrous Crete (India) Pvt Ltd.
		Fosroc	Smart care sealant
		MYK Schomburg	MYK Arments range of products
		Pidilite	Pidilite Industries
		STP Ltd	Shalimar tar products
		Techseal	Choksey chemical Pvt ltd.
		Tuff seal	Bondit construction chemical
123	Polyethylene backer rod	Supreme	Supreme Industries
124	Polyurea Ultra	BASF	BASF
		Ferrous	Ferrous Crete (India) Pvt Ltd
		Pidilite	Pidilite Industries
		SIKA	SIKA India
		Smart care	Asian paints
125	Powder coating	Akzonoble	Akzonoble Coating Ltd.
		Berger	Berger Paints India Ltd.
		Jotun	Jotun Group
126	Powder & PVDF Processer	Aura International	Aura International Pvt.,Ltd.
		MJ coaters	MJ Coaters Pvt.,Ltd.
		SP Coating	SP Architectural Coating Pvt.,Ltd.
127	Prelaminated particle board Exterior Grade	Archid ply	Archid Ply Industries Ltd.
		Associate	Associate Décor Limited
		Centuary	Centuary MDF
		Ecoboard	Ecoboard Industries Ltd.
		Green Lam	Green lam Industries Ltd.
		Kitlam	Kit Ply Industries Ltd.
		Merino	Marino laminates
		Novapan	GVK Novapan Industries Pvt. Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		TESA Action Co.	TESA Action Co.
		Heritage	M/s. DECO MICA Limited, Ahmadabad.
128	Premium Acrylic smooth exterior Paint with silicon additives	Berger	Berger
		Dulux	ICI dulux
		Nerolac	Nerolac
		ULTIMA	Asian paint
129	PTMT/PVC sanitary fittings, bib cocks, pillar cock Angle valve,	PEARL	Precision Products
		Supreme	Supreme industries
		TRUFLO	M/s.HINDWARE LIMITED
130	PT Strands	DP Wires	DP Wires Ltd.
		TATA wiron	TATA STEEL LTD.
		Usha Martin	Usha Martin Ltd.
131	PVC Doors and Frames	Ambieance	Ambieance
		Accucel	Accura Polytech Pvt. Ltd.
		Duroplast	Duroplast extrusion Pvt. Ltd.
		Encraft	Encraft India Pvt. Ltd.
		Plastic Wood	Plastic Wood
		Polyline	Polyline extrusion Pvt. Ltd.
		Rajshri	Rajshri Productions Pvt. Ltd.
		Sintex	Sintex Plastic technology Ltd.
		VEKA	M/s NCL Veka Ltd.
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
		RAJSRHRI	M/s. Rajshri Plastiwood Pithampur, M.P.
		GIZA	M/s Navratan Specialty Chemicals LLP
132	PVC / HDPE water storage tanks	Sintex	Sintex Plastic technology Ltd.
		Supreme	Supreme Industries Ltd.
		Vectus	Vectus Industries Ltd.
133	PVC Perforated Pipes	Akash Enterprises	Akash Enterprises
		Rex Polyextrusion	Rex Polyextrusion Ltd.
		Supreme	Supreme industries.
		Zenplas Pipes	Zenplas Pipes Pvt ltd.
134	PVC flooring	Armstrong	Armstrong world Industries
		Ger flor	Ger flor flooring

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		LG Hausys	LG Hausys
135	PVC Conduits & Fittings	SUDHAKAR	M/s. Sudhakar PVC Products Pvt, Ltd.
136	PVDC coating	Akzonoble	Akzonoble Coating Ltd.
		Valspar	Valspar India Coating Corporation Ltd.
137	PU Coating (UV resistant Liquid Applied coating)	BASF	BASF
		Fosroc	Fosroc India
		Pidilite	Pidilite industries
		PU Roof Koat	Berger Paints Ltd
		SIKA	SIKA India
		Smart care	Asian paints
138	PU Enamel Metallic Paints on MS Structure & Epoxy paints (Premium Quality)	Akzonobel	Akzonobel
		Asian paints	Asian paints
		Berger	Berger paints India Ltd.
		MRF	MRF paints
		SKK	SKK ltd
139	Raised / Cavity flooring	Access Floor systems	Access Floor Systems
		Tate	Tate
		Uni floor	Uni floor India
		Unitile	Unitile India
		Zt floor	Zt floor Pvt.,Ltd
140	RCC Pipes / Precast concrete pipes (RCC hume pipes)	Indian Hume Pipes	Indian Hume Pipe Ltd.,
		Jain & Co	Jain spun pipes Co.,
		Lakahmi Sood & Sood	Lakshmi Sood & Sood Pipa Co.
		Madurai spun pipe	Madura spun pipe company
		Vishnu	Vishnu Spun Pipes.
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
141	Ready mix cement plaster	Ferrous Crete	Ferrous Crete (India) Pvt. Ltd.
		Gyproc plasters	Saint Gobain Gyproc India
		Ramco super plaster melamine	Ramco super plaster melamine
		Read Plast	Ultratech cements Ltd
		Ultra tech	Ultra tech Cement Ltd
142	Red Oxide Zinc Chromate primer	Berger	Berger Paints
		Dulex	ICI dulex

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		High performance yellow metal primer	Asian Paint
		Nerolac	Nerolac
		Nippon	Nippon
143	Reflective glass , High performance glass	Asahi	Asahi India Glass Ltd.
		Glaverbel	Glaverbel India
		Modifloat	Gujarat Guardian Ltd.
		Pilkinton	Pilkinton India
		SISECAM	M/s.Sisecam Flat Glass India Pvt. Ltd.
		Saint Gobain	Saint Gobain India Pvt. Ltd.
144	RMC plants (Ready Mix Concrete)	ACC	ACC Cements Ltd
		A B Dinesh	A B Dinesh Concrete India Pvt., Ltd.
		Lafarge	Lafarge India Pvt. Ltd.
		NUVOCO	Nuvoco Vistas Corporation Ltd.
		RB Ready Mix	RB Ready Mix
		RDC	RDC Concrete (India) Pvt.Ltd.
		RMC (India)	RMC (India) Pvt. Ltd.
		Plants at - Autonagar, Gajuwaka & Atchutapuram @ Visakhapatnam.	M/s. Sarvani Industries Pvt. Ltd., Guntur.
		Plants at - Ankireddy Palem, Kolanukonda @ Guntur.	
		Ultra Tech	Ultra Tech Cement Ltd
		JK Concrete	M/s JK Ready Mix Concrete
		M/s. Sarvani Industries Pvt. Ltd, RMC Plants at -Varisam Village, Ranasthalam (M), Srikakulam Dist. & Kapuluppada Village, Bhimili (M), Visakhapatnam Dist.	M/s Sarvani Industries Pvt, Ltd.
145	Rockwool/Glass wool insulation	Liyod Insulation	Liyod Insulation Ltd.
		Supreme	Supreme Industries Ltd.
		Twiga fiber	Twiga fiber glass ltd
146	Sandwich PUF panelled roofing sheets	Advent	Advent concrete vision
		BASF	BASF
		Danapalan	Danapal Light architecture

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Essar	Essar Group.
		Fosroc	Fosroc
		GE Plastic	GE Silicones
		GE Plastic	GE Silicones
		JINDAL MECTEC/ JINDAL	Mectec Pvt Ltd
		LEXAN	LEXAN Ltd
		Liyod Insulation	Liyod Insulation (India) ltd
		Lloyd Insulation	Lloyd insulation (India) Ltd
		Pidilite	Pidilite Industries ltd
		Smart care	Asian paints
		Supreme	Supreme ltd
147	Sensor based Auto flush systems	AOS System	AOS System
		Grohe	Grohe
		Hindware	HSIL Ltd
		Jaquar	Jaquar Group
		Kochier	Kochier
		Parryware	Parryware Sanitary ware
		TOTO	TOTO ltd.
148	SFRC Cover and grating	Nu-TEC	Nu-Tech concrete products (P) Lld.,
		KK	KK Manhole and gratings Co Pvt Ltd.,
		Kutty	Kutty Industries
149	Shear Stud/ Connector	KOCO	KOSTER & CO
150	Silicon coating	BASF	BASF India Ltd.
		Dow Corning	Dow corning Indd
		GE	GE Silicones
		Wacker	Wacker silicones
151	Silicon Gaskets	Sree Geurev	Sree Gaurav Rubber products
152	Solar studs/ Median markers	3M	3M Science
		Avery Dennison	Avery Donnison India Pvt Ltd.
		Nikkalite	Nippon carbide Industires (USA)
153	Spider patch fittings for structural glazing	Dorma	Dormakaba
		hafele	Hafele Ltd.
		Kich	Kich india

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Ozone	Ozone Ltd.
		Sevax	Saint Gobain Glass India Ltd.
154	Spray applied Readymade plaster/ Gypsum plaster	Buildon	Buildon
		Ferrous Crete	Ferrous Crete (India) Pvt Ltd.
		Gyproc cute 100	Gyproc India.
		Ultratech	Ultratech cement ltd.
155	Spun cast iron fittings	Neco	JayaSwal Neco Ltd
		Kartar	Kartar valves private Ltd. ,
		Electrosteel	Electrosteel
		Kapilansh Centrifugal	Kapilansh Dhatu Udyoo (P)Ltd.
		SKF brand	SINGHALIRON FOUNOARY Pvt. Ltd.
156	Spun cast iron covers & gratings	Jagannath	Sri Jaqannath iron Foundry Pvt. Ltd
		Kapilansh Centrifugal	Kapilansh Dhatu Udyoo{P)Ltd.
		Neco	Jayaswal Neco Ltd
		SKF brand	SINGHALIRON FOUNOARY Pvt. Ltd
157	Stainless Steel / Stainless Steel Pipes	Ark Product Pvt. Ltd.	Ark Product Pvt. Ltd.
		Connect	Connect Ltd.
		Jindal	JSW
		KINGSTON	KINGSTON
		Salem	SAIL
		SAIL	SAIL
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
158	Stainless Steel screws	Alloy	Alloy Ltd.
		Atul	Atul fasteners Ltd.
		GKW	GKW Limited
		Helix	Helix India
		Kundan	Kundan Industries Ltd.
		Nettlefold	Nettlefold Screws
		Pooja	Pooja Steel Corporation
159	Stainless steel Butt hinges	Dorma	Dorma India Pvt. Ltd.
		Helix	Helix India
		Ozone	Ozone Hardware
160	Stainless steel friction hinges	Earl Bihari	Earl Bihari India Pvt. Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		EBCO	EBCO
		Hetich	Hetich India
		Haffle	Haffle India Pvt. Ltd.
		ROTO	ROTO Frank Asia
		Securistyle	Securityle India Pvt. Ltd.
161	Stainless steel Bolts, washers, nuts	Atul	Atul fasteners Ltd.
		Hilti	Hilti India Pvt. Ltd.
		Kundan	Kundan Industries Ltd.
		Pooja	Pooja Steel Corporation
162	Stainless steel pressure plate screws	Atul	Atul fasteners Ltd.
		Dorset	Dorset Industries Pvt.Ltd.
		Kundan	Kundan Industries Ltd.
		Pooja	Pooja Steel Corporation
163	Stainless steel handles	Dorset/Dorma	Dorma India Pvt. Ltd.
164	Stainless Steel Kitchen sink	CERA	M/s Cera Sanitaryware Ltd.
		Diamond	Pheonix Appliances Pvt. Ltd.
		Franke	Franke India Ltd.
		Futura	Futura Kichen Sinks India Pvt. Ltd.
		Hindware	HSIL Ltd
		Jhonson	Prision Jhonson Ltd.,
		Jindal	Centuary polytech
		Joyna	Joyna
		Navkar	Shri Navkar Metals Ltd
		Nilkanth	Nilkant
		Nirali	Jyoti (India) Matel Industries Pvt Ltd
		Silver Shine	Blue stone sanitary Industries Pvt. Ltd.
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
165	Steel Windows/ Pressed steel frames	Accucel	Accura polytech Pvt ltd.
		Madhu industries	Madhu industries, San Harvic, NCL
		NCL	NCL Industries
		San Harvic	San Harvic
166	Structural Steel	JSPL	JSPL
		JSW	JSW

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		SAIL	SAIL
		TISCO	TATA STEEL
		VIZAG	RINL
167	Structural sealant	Asian paints	Smart care sealant
		BASF	BASF India Ltd.
		Dow corning	Dow corning india
		Fosroc	Fosroc India
		GE	GE silicones
		STP Ltd.	Shalimar tar products
		Wacker	Wacker silicones
168	Synthetic enamel Paint	Berger	Berger Paints
		Dulex	ICI dulex Ltd
		Premium gloss enamel	Asian paint Ltd
		Nerolac	Nerolac Paints Ltd
		Nippon	Nippon Paint India Ltd.
		SURFA	M/s. Surfa Coats (india) Pvt. Ltd., Bangalore.
169	Synthetic Carpet tiles	Hollitex	Hoilitex carper tilas
		Standard Carpets	Standard Carpets
		TOLI	TOLI Corporation
170	Synthetic Sports Flooring	Armstrong	Armstrong flooring
		Gerflor	RMG Polyvinyl India Ltd.
		LG Wondorfloor	LG Hausys India
171	SWR PVC Pipes & fittings	Astral	Astral poiytechnik Ltd.
		Finolex	Finolex Industries Ltd .
		Flowgard	Ashirwad PVC Pipes
		Nandi	Nandi pipes Pvt., Ltd.
		Prince	Prince Pipes and fittings
		Sudhakar	Sudhakar PVC Pipes
		Supreme	Supreme Industries Ltd.
172	Swell able water stop	KRYTON	M/s. Kryton Buildmat Co. Pvt Ltd., Gurugram, Haryana.
173	Tempered reflective/ clear glass	Asahi	Asahi India Glass ltd.
		FUSO	FUSO Glass India Pvt. Ltd.
		Gurind	Gurind India

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Imapct Safety	Impact Safety glass works Pvt. Ltd.
		Modiguard	Gujarat Guardian Ltd.
		Pilkington	Pilkington India Pvt. Ltd.
		Saint Gobain	Saint Gobain India Pvt. Ltd.
174	Thermal Insulation treatment	Asian	Asian Paints Ltd.
		Elastospray	BASF
		Pidilite	Pidilite Industries
		Rock India Pvt. Ltd	Rock India Pvt. Ltd
		Weather Kool & Seal	Berger Paints India Ltd.
175	TMT Bars	JSW	JSW Steel Ltd.
		SAIL	Steel Authority of India Ltd.
		TISCO	TATA STEEL LTD.
		VIZAG	Rastriya Inspat Nigam Ltd.
176	Tinted and Coated glass	Gold Plus	M/s. Gold Plus Glass Industry Ltd., New Delhi.
177	Transformers	KPEL	M/s. Kanyaka Parameshwari Engg. Ltd.
178	Tube Based Gas Fire Suppression System	ASES (Agni Suraksha)	M/s. ASES Security Pvt. Ltd.
179	Tubular poles, Octagonal Poles , Conical Poles and High Masts	CONSOUL	M/s. R.R.ISPAT
180	UPVC -UGD /UGD Pipes and Fittings.	SUDHAKAR	M/s. Sudhakar Polymers Pvt. Ltd.
		AKG	M/s. AKG Extrusions Pvt. Ltd.
		DEC	M/s.DEC Industries Pvt. Ltd., Hyd .
		SENTINI	M/s. Sentini Flopipes India Pvt. Ltd.
181	UPVC (SWR) Pipes and fittings (Rain water pipes)	AKG	AKG
		Astral	Astral polytechnik Ltd.
		Ashirwad	Aahirwad PVC Pipes
		Finolex	Finalex Industries Ltd.
		KSR	KSR
		Prepoly	Premier PVC Industry
		Prince	Prnce pipes and fittings Ltd.
		Supreme	Supreme industries Ltd.
		AKG	M/s. AKG Extrusions Pvt. Ltd.
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
		SENTINI	M/s. Sentini Flopipes India Pvt. Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		TRUFLO	M/s.HINDWARE LIMITED
182	UPVC doors, door frames and windows	Aluplast	Alu Alpha India
		Duroplast	Duro Plast Extrusion Pvt. Ltd.
		Encraft	Encraft India Pvt. Ltd.
		Fenesta	Fenesta DCM Shriman
		Komarling	Profile India Window Technology Pvt. Ltd.
		LG	LG India Pvt. Ltd.
		RAJSRHRI	M/s. Rajshri Plastiwood, Pithampu, M.P.
		MARCOLINI	M/s Mathura Poly pack Pvt, Ltd.
		Prominance	M/s Prominance Window Systems
		Rehau	Rehau Unlimited Polymer Solutions
		Sintex	Sintex Plastic technology Ltd.
		VEKA	M/s NCL Veka Ltd.
		Plast One	M/s.Plast one UPVC Profiles Pvt. Ltd., Secunderabad.
		YASHPOLY	M/s.Yashashri Polyextrusion Pvt. Ltd.
		SIMTA ASTRIX	M/s Simta Clear Coat Pvt.Ltd.
		SHINE TECH	M/s BONDADA ECOBUILD PRIVATE LIMITED
183	UPVC Doors & Windows profiles	SIMTA ASTRIX	M/s. Simta Clear Coat Pvt. Ltd., Hyderabad.
		YASHPOLY	M/s.Yashashri Polyextrusion Pvt. Ltd.
		VEKA	NCL VEKA Pvt.,Ltd
		PROZONIC	M/s PROZONIC EXTRUSIONS PRIVATE LIMITED
		PSP	M/s PSP Dynamic Limited.
184	UPVC Hardware	COAR	COAR
		DNV	DNV Global Pvt.,Ltd
		HOPPE	HOPPE
		PULSE	LGF SYSMAC (India) Pvt.,Ltd.
	uPVC and Aluminium Doors, Windows Hardware and Accessories.	WINDSEAL	M/s. WINDSEAL HARDWARE INDUSTRIES.
185	Vitreous Commodes/ Washbasin	BATHSENSE	Asian paints (Bath division)
		CERA	CERA Sanitaryware Ltd.,
		Hindware	HSIL Ltd.
		Jaquar	Jaquar Group

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Kerovit	M/s Kajaria Ceramic limited
		Kohler	Kohler world Wide
		Parryware	ROCA Bath Pvt. Ltd.,
		Roca	ROCA Bath room products
		RAK Sanitaryware	RAK Sanitaryware
		Somany	Somany Ceramic Ltd.
186	Vitrified paving tiles	Durostone	Ever stone International
		Johnson	Johnson India
		Kajaria	Kajaria Ceramics
		PAVIT	PAVIT Ceramics Pvt. Ltd.
187	Vitrified Tiles	AGL	Asian Granite India Ltd.
		CERA	M/s CERA sanitary ware Ltd.
		Johnson	Prism Johnson Ltd.
		Kajaria	Kajaria Ceramic Ltd.
		Marbita	Marito tiles
		NITCO	NITCO Ltd.
		Oasis	M/s Oasis Vitrified Pvt.Ltd.
		RAK	RAK Ceramic India Pvt. Ltd.
		Restile	Restile Ceramic Ltd.
		Somany	Somany Ceramic Ltd.
		Varmora Granito	Varmora Granite Pvt. Ltd.
		NAVEEN	M/s.Murudeshwar Ceramics Ltd., Bangaluru.
188	Water Proof Plywood, Commercial ply, Fire retardant ply and Block boards / Shuttering ply	Archidply	Archid Ply Industries Ltd.
		A1 Teak	A1 teak Industries Pvt. Ltd.
		Century ply	Century Flush Doors
		Duroply	Duro Ply Industries Ltd.
		Duroplast	Duroplast
		Dura sleek	Dura sleek
		Grassim ply	Shree Ram Industries
		Green panel	Green panel Industries Lid.
		Green Ply	Green Ply Industries Ltd.
		Jayna ply	Jain Wood Industries
		KANCHAN PLY	M/s Vidya Ply & Board Pvt. Ltd

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Kitply	Kitply Industries Ltd.
		Polyline	Polyline
		AAMODA	M/s. Jai Dayal Plywood Pvt. Ltd., Hyderabad.
		BLACK COBRA	M/s. Punjab Plywood Industries, Yamunanagar, Haryana.
189	Water Proof cement paint	Asian exterior wall primer	Asisn paint
		Berger	Bergar Paints
		Cem Colour	Snowcem Paints
		ICI DULUX	ICI DULUX
		Surfa	Surfactoats (India) Pvt. Ltd.
190	Water supply Valves	ARCO	Arco valves Pvt. Ltd ,
		leader	leader valves Ltd ,
		Nanda	Nanda Miller company
		Zoloto	Zoloto Industries
191	Welding rods	Advani	Advani oerlikon Ltd.
		ESAB	ESAB India Pvt. Ltd.
		ESS, BATHSENSE & Premium Range : Royale	Asian Paints (Bath Division)
		HINDWare	HSIL Ltd.
		Jaquar	Jaquar Group
192	Water supply fixtures like bibcock, Shower panels	Johnson	Prism Jhonson Ltd
		Kerovit	M/s Kajaria Ceramic limited
		Kingston	Kingston brass India
		MARC	MARK Showers
		Metro	Metro sanitations Pvt. Ltd.,
		Parryware	ROCO bath roam products Pvt. Ltd,
		Seiko	Seiko Sanitations
		Waterman	Kewal brothers
193	Water proofing Compound	Accoproof	ACC cement Ltd.
		Alchemica	Alchemica Ltd.
		Ardex Endura	Ardex Endura (India) Ltd.
		Asian Paints	Asian Paints
		CICO	CICO Technologies Ltd.
		Cement Mix	Berger Paints India Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Plus/ Advanced Latex Plus	
		Dr. Fixit	Pidilite industries
		Ferrous Crete	Ferrous Crete (India) Pvt Ltd.
		Fosroc	Fosroc India
		Impermo	Snoweem paints
		MYK Schomburg	MYK Schomburg range of products
		Penetron	Penetron India Pvt Ltd.
		Shaliplast LW+	STP Ltd
		Sika	Sika India
		KRYTON	M/s. Kryton Buildmat Co. Pvt. Ltd., Gurugram, Haryana.
194	Water stops	Ardex Endura	Ardex Endura Ltd.
		BASF	BASF India Ltd.
		Dr. Fixit	Pidilite industries
		Ferrous Crete	Ferrous Crete (India) Pvt Ltd.
		Hydroswell	Sika India
		Hydrotite	Sika India
195	Water proofing materials/ GP Grouts	Asian paints	Smart care SC GP grout grey
		BASF	BASF
		Care	Care
		Ferrous crete	Ferrous Crete (India) Pvt Ltd
		Home shield Super grout	Berger Paints Ltd.
		Pidilite	Pidilite Industries
		SIKA	SIKA India
196	Weather silicon make and grade	Down corning	Down corning india
		Momentive (GE)	GE silicone
197	White Cement	Birla	Birla Corporation Ltd.
		J.K.	JK Cement Ltd.
		Travancore	Travancore Cements Ltd.
198	Wood Polymer composite material for door frames and shutters, plain/pre laminated boards for wall linings etc.	Alstone	Alstone Industries Pvt., Ltd., Jaipur, Rajastan.
		Century	M/s Century Ply Boards (I) Limited
		Ecoste	Ecoste wood polymer composite, Delhi.
		Echon	Kumar Arch Tech, Pvt.Ltd., Rajastan.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		Green ply	Greenply Industries Limited
		Qute	Qute Extractions Pvt.Ltd., Chennai.
		Rajasree	Rajeswari Products Pvt.,Ltd., Madya Pradesh.
199	Wooden Flush door shutters	Archiply	Archiply
		A1 Teak	A1 Teak Products Ltd.
		Century	Century Flush Doors
		Duro Flushdoors	Dura Ply industries Ltd.
		Greenlam	Greenlam Ply Industries Ltd.
		Indian Timber Products	Indian Timber Products
		Jain doors Pvt.Ltd.	Jain doors Pvt.Ltd.
		Jayna Flush Doors	Jain Wood Industries
		Kailash	Kailash Hi Tech Timber Industries India pvt. Ltd.
		KANCHAN PLY	M/s Vidya Ply & Board Pvt. Ltd
		Kenwood	Kenwood Ply & Board
		Kitply	Kitply Industries Ltd.
		Mayur	Mayur Ply industries
		MP Ply wood products	MP Wood products
		National plywood	National plywood
		Raavella door	Raavella Industries (P) Ltd.
		Shakthi	Shree Shakthi Modern Flush doors
		Swatic ply	Swatic ply
		Vidya ply	Vidya ply
		AAMODA	M/s. Jai Dayal Ply wood Pvt. Ltd., Hyderabad.
		BLACK COBRA	M/s. Punjab Plywood Industries, Yamunanagar, Haryana.
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
200	Wires & Cables	UNISTAR	M/s. Universal Cables Ltd
		ORBIT	M/s. Orbit wires & cables India Pvt. Ltd
		NAKODA	M/s. Nakoda Wires & Cables
		FORTUNEARRT	M/s. FortuneArtr Wires & Cables Pvt. Ltd
		AKG	M/s. AKG Plastics Pvt. Ltd
201	Wires & LT & HT Cables	FINECAB	M/s. Finecab Wires & Cables Pvt. Ltd.
		GLOSTER	M/s. Gloster Cables Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

202	Laminated sheet	Heritage	M/s. DECO MICA Limited, Ahmadabad.
203	MDF Board	Heritage	M/s. DECO MICA Limited, Ahmadabad.
204	WPC frame of size 90x45 mm for doors & windows.	MAGMA	M/s. SMP IMPEX, Bangalore
		GIZA	M/s Navratan Specialty Chemicals LLP
205	WPC sheet 28 mm thick for doors & windows.	MAGMA	M/s. SMP IMPEX, Bangalore
		GIZA	M/s Navratan Specialty Chemicals LLP
206	PVC sheet 5 mm thick for panelling in doors, windows etc.	MAGMA	M/s. SMP IMPEX, Bangalore
		GIZA	M/s Navratan Specialty Chemicals LLP
207	Precast concrete manhole covers and frames (IS-12592-2002)	DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
208	HD PE pipes for water supply (IS 4984-2016)	DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
209	Admixute (PC, SNF)	DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
210	SBR latex	DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
211	Cold rolled closed Annealed (CRCA) door frames.	DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
212	WPC Doors	RAJSRHRI	M/s. Rajshri Plastiwood, Pithampur, M.P.
		DEC	M/s. DEC Industries Pvt. Ltd., Hyderabad.
216	CP water supply fixtures - stop valve & angle Valve	JAYNAM	M/s. Jain Enterprises
221	Tabular Steel door frames - MS/GI/GP	APL APOLLO CHAUKHAT	M/s. Radha Smelters Pvt. Ltd.
222	IoT based building Management System (S.T. Open Protocols)	WIS Spaces	M/s.Wenalytics IoT Solutions Pvt. Ltd.
223	CP Bath Fittings & Accessories	CORONET	M/s. Mohan Metal Industries
		EssEss"ap Royale" and "Bathsense"	M/s. Asian Paints Limited
224	UPVC pipes for water supply, UPVC-SWR Pipes & Fittings, CPVC Pipes & Fittings	Birla Hil Pipes	M/s. Hil Ltd.
		SENTINI	M/s. Sentini Flopipes India Pvt. Ltd.
		TRUFLO	M/s.HINDWARE LIMITED
225	Aerocon Panels (Sand Witched)	BIRLA AEROCON	M/s. Hil Ltd.
226	Door & Window Fittings (Aluminium, Mild Steel, Stainless steel & Brass)	CROWN	M/s. Crown Industries.
227	Green Panel Board (HDF Laminates)	Green Panel	M/s. Mohan Metal Industries
228	Pre laminated Board (MDF)	Green Panel	M/s. Mohan Metal Industries
229	S.S Hard ware (Tower bolts, SS Door Handles, SS Built Hinges, S.S Aldrop	-	-
230	AAC Blocks	SMART BRIX	M/s Smart Brix Infra Technology Pvt.Ltd.,

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		FUSION	M/s FUSION BUILDING MATERIALS (VIZAG) PRIVATE LIMITED
233	Door & Windows fittings a) Tower bolts – Non ferrous metal (IS-204) Sliding door blots-Non ferrous Aldrops (IS 2681) Butt hinges –Non ferrous (IS -205) Door handles (IS -208)	Global	M/s Aluminuim Udyog, New Delhi
234	Reflective Glass	Guardian Sun Guard	M/s Gujarat Guardian Ltd.
235	Variable Frequency Drive	YASKAWA	M/s Yaskawa India Pvt.Ltd.
236	GGBS	JSW	M/s JSW Cement Ltd.
237	HPL Sheets & Laminates	VIRGO	M/s VIRGO Laminates Ltd.
		ALUTECH	M/s Alutech industries
238	Prelaminated cement bonded particle board	BISON PANEL	M/s. NCL Industries Ltd.
240	UPVC (SWR) Pipes & Fittings (IS: 13592 & IS: 14735) CPVC pipes & Fittings (IS: 15778) Wooden Flush door shutters (Solid core type) Part-I Plywood face panels (IS 2202-Pt-I) Precase concrete manhole covers and frame (IS-12592-2002) Stainless steel kitchen sink (Type A2 single bowl without drainer) (IS 13983) UUPVC-UGD pipes (IS 15328) Precase concrete pipes (RCC hume pipes) (IS 458-2021) HD PE pipes for water supply (IS 4984-2016) PVC doors & Frames *Admixute (PC,SNF) *Non shrink grout *SBR latex (* Subject to statutory approvals) Cold rolled closed Annealed (CRCA) Stainless Steel pipes (with emboss/mark "RM by JINDAL")	DEC	M/s. DEC Industries Pvt. Ltd
241	Outdoor Poles & Fittings	FORTUNEARRT	M/s. FortuneArrt LED Lighting Pvt. Ltd.
242	PVC Conduits, Lt Panels, GI Modular boxes, Switches and Sockets. & Wires, TTE Associate Panels.	DEC	M/s. DEC Industries Pvt. Ltd
244	Transparent Float Glass Reflective Glass, High Performance Glass Mirror	SISECAM	M/s. Sisecam Flat Glass India Pvt. Ltd.
245	CPVC Pipes & Fittings. UPVC Pipes & Fittings (For water supply) UPVC-SWR Pipes & Fittings	AKG	M/s. AKG Extrusions Pvt. Ltd

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

246	Vitrified Tiles	SUNHEARRT CERAMIK	M/s. Sunshine Tiles Company Pvt. Ltd
		GRAVES	M/s.LARSEN &TOUBRO LIMITED
	Ceramic Tiles	SUNHEARRT CERAMIK	M/s. Sunshine Tiles Company Pvt. Ltd
		GRAVES	M/s.LARSEN &TOUBRO LIMITED
248	Sluice Valves (IS-1486) Butterfly Valves (IS-13095) Non Return (Reflux) Valves (IS-5312) Ball Valves (IS-9890-1981) GM Gate Globe & Check Valves Ductile Iron Fittings (IS-9523)	KARTAR	M/s. Kartar Valves Pvt. Ltd.
249	PVC, WPC – Boards, Doors	BLACK COBRA	M/s. Yamuna Interiors Pvt. Ltd
250	WPC – Boards, Doors, Jali	ECOSTE	M/s. Asma Traexim Pvt. Ltd
251	Particle Board 18 mm thick	HERITAGE	M/s.Deco Mica Limited, Ahmadabad
252	PVC Sheets : 3mm to 30mm thick & WPC Sheets : 6mm to 30mm thick.	GIZA	M/s. Navratan Specialty Chemicals LLP
253	PVC & WPC Frames and Door shutters.	GIZA	M/s. Navratan Specialty Chemicals LLP., Ahmedabad-380051, Gujarat.
255	Metal False Ceiling	HI- STEEL of M/s P.R Products	M/s P.R Products
256	Water proofing compounds & chemicals Membrane W/P System PU paints, EPOXY Paints	SUNANDA	M/s. Sunanda Specialty Coatings Pvt. Ltd.
257	Vertical zebra blinds	Vista	
258	Stainless Kitchen Equipments and Drain grating	Koncept	M/s Koncept Solutions
259	Stainless Steel Dustbins	Koncept	M/s Koncept Solutions
260	Super Plasticizers (Retarders)	AC-MENT-BV 430 A3	Apple Chemie (I) Pvt.Ltd
261	APCP Based High Performance Hyper Plasticizers for Self Compacting Concrete with Higher Slump Retention	Visco Flux 5507/6073	Apple Chemie (I) Pvt.Ltd
262	Pentratave BI-Polar Corrosion Inhibiting Admixture	AC-Corroguard	Apple Chemie (I) Pvt.Ltd
263	Micro Silica Additives (Pozzolanic Material)	AC-Microsil- Si9+	Apple Chemie (I) Pvt.Ltd
264	Crystal Line Water proofing Admixture (PRAH Based)	AC-Crystacrete	Apple Chemie (I) Pvt.Ltd
265	Curing Compounds	AC-Cure R-(M)	Apple Chemie (I) Pvt.Ltd
266	PU Sealant	AC-Proseal 400	Apple Chemie (I) Pvt.Ltd
267	Coal Tar Epoxy Coating	AC-DUR-CT(S)	Apple Chemie (I) Pvt.Ltd
268	Ploy Urethane water proofing	AC-1K-PU	Apple Chemie (I) Pvt.Ltd

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

269	Soli panel PVC Door PVC Frames Hollow PVC Door & Door Frames WPC Board WPC Doors and Frames	Kaka	M/s. Kaka Industries Limited
270	MOTORS & PLASTERS Ultratech Fixoblock Ultratech Readiplast RP Ultratech Basecrete TILE ADHESIVES & TILE GROUT Tilefixo – VT Tilefixo – NT Tile fixo style epoxy grout INDUSTRIAL & PRECISION GROUTS Power Grout NS2 Normal & Flowable Power Grout NS2 Normal & Flowable Power Grout NS3 Normal & Flowable REPAIR & REHABILITATION Ultratech Microkrete	Ultratech	M/s. Ultratech Cement Limited.
271	MS ERW PIPES & TUBES	MS VAYU	M/s Maruti Ispat & Pipes (P) Ltd.
272	UPVC (SWR) Pipes & fittings. CPVC pipes & Fittings. Wooden Flush door shutters (Solid core type) Part-I Plywood face panels. Precast concrete manhole covers and frame Stainless steel kitchen sink (Type A2 single bowl without drainer). UPVC - UGD pipes. Precast concrete pipes (RCC Hume pipes). HD PE Pipes for water supply Admixture (PC, SNF) Non Shrink grout. SBR Latex.	DEC Industries	M/s. DEC Industries Pvt. Ltd.
273	Electrical Conduit Pipes (IS 9537: PART 3 : 1983) PVC Water Storage Tank. (IS 12701 : 1996) CPVC pipes & fittings. (IS 15778: 2007)	SUDHAKAR	M/s Sudhakar PVC Products Private Ltd.
274	Polyethylene Pipes for Water Supply. (IS 4984 : 2016) uPVC Pipes for potable water supplies. (4985: 2021) UPVC UGD Pipes (IS 1532: 2003) UPVC SWR Pipes (IS 13592 : 2013) uPVC Profiles for Windows and doors	SUDHAKAR	M/s Sudhakar PVC Products Private Ltd.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

	(IS 17953 : 2023		
275	HDF Panel Doors, Wooden Flush doors, Plywood, Marine Plywood and Block boards.	KALPATARU	V.K.Patel Company
276	Grout / General Purpose Grout. Epoxy Paints and Coatings. Waterproofing Compound. Membrane Waterproofing System. Chemical Waterproofing System. PU Coating. Self-Leveling Compound. Admixtures of Concrete.	MAPEI	M/s. Mapei Construction Products India Pvt. Ltd.
277	MS & GI Pipes and Hollow sections	FORTUNE	M/s. Fortune Metals Limited.
278	i) Wooden Flush Door Shutters (Solid Core Type), ii) Block Boards, iii) Plywood for General Purpose, iv) Plywood (Marine Grade, BWP Ply).	AAMODA	M/s.Jai Dayal Plywood Pvt. Ltd.
279	Fibre cement boards	V-Board and V-Panel	M/s Visaka Industries Limited
280	Cement based adhesives (Tile & Stone), Epoxy Grout (Tile/ Stone), Specialty adhesives (Tile/ Stone), Screed, Self leveling compound and AAC block Adhesive.	MYK LATICRETE	M/s MYK Laticrete India Pvt. Ltd.
281	i)Aluminium Composite Panel. ii) Aluminium (HPL) High Pressure Laminate. iii) Aluminium Fins & Louvers. iv) Aluminium Honeycomb Panel.	ALUMAZE ELITE	M/s. GOVIND INTERNATIONAL
282	i) Concrete Admixtures, ii) Waterproofing Membranes or Coatings, iii) Expansion Joint Sealants, iv) Repair & Restoration, v) Protective Coatings, vi) Grouts & Anchors and vii) PU Flooring & Epoxy flooring.	MYK Arment	M/s. MYK Arment Private Limited
283	i) DWC Pipe, ii) HDPE Pipe and iii) UPVC Pipe.	JK POLYEXTRUSION	M/s. JK POLYEXTRUSION
284	i) AAC Blocks and Jointing Mortar, ii) Prefabricated Sandwich Panels, iii) Fibre Cement Boards, iv) Putty, v) Pipes & Fittings (CPVC, UPVC, SWR, AGRI, PRESSURE, HDPE, UGD, FOAMCORE Etc.).	Birlanu	M/s. BirlaNu Limited (Formerly HIL Limited)

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

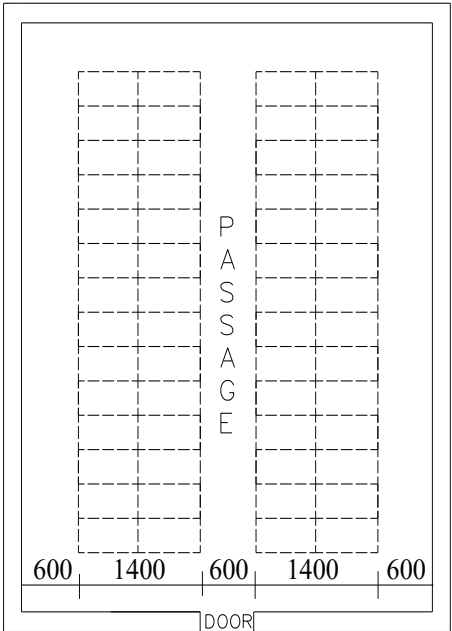
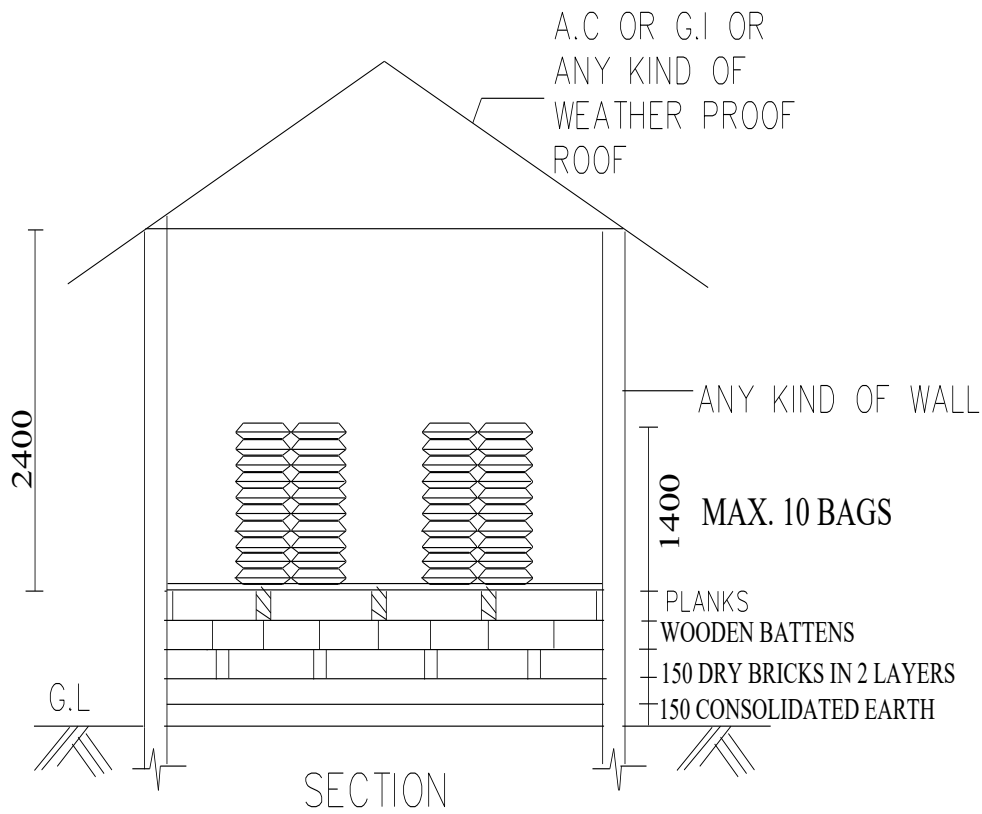
285	i) Tile Adhesive/Tile Grouts. ii) Waterproofing Compounds.	HARD WORKER	M/s. THE RAMCO CEMENTS LIMITED
286	i) Tile/Stone Adhesives. ii) Concrete Admixtures. iii) Construction Chemicals. iv) Ready Mix Plaster. v) Block Jointing Mortars.	CEMSEAL	M/s. CEMSEAL INDUSTRIES LTD.
287	Steel Hollow Pipes & Tubes.	HARIOM	M/s. Hariom Pipe Industries Limited
288	i) Aluminium Composite Panel. ii) Aluminium High-Pressure Laminate. iii) Aluminium Corrugated Core Panel. iv) Aluminium Fins & Louvers & Baffles. v) Zinc Composite Panel. vi) Aluminium Honeycomb Panel. vii) Solid Aluminium Sheet.	VIVA	M/s. VIVA Composite Panel Pvt. Ltd.
289	i) Sanitary Installations ii) CP Brass Toilet Fittings iii) Wash rooms Automation Accessories	EURONICS	M/s. Euronics Industries Pvt. Ltd
290	i) Exterior / Interior Emulsion Paints ii) Exterior / Interior Primers. iii) Waterproofing Cement paint. iv) Snowcare White Cement based Putty	SNOWCEM PAINTS	M/s. Saurashtra Cement Limited (Paint Division)

***Note:**

1. Any other brand as approved by CE-Hyderabad, CPWD from time to time valid as on date.
2. The above list is provisional and subject to product conformity of standards of relevant codes.
3. Any other brand as approved by the ADG -H, CPWD will also become part of the above list valid as on date.
4. The Products mentioned above are indicative, should have valid BIS Licenses, valid approvals of **CE-HYD/ADG Hyderabad** as on date during the period of work execution.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

CLAUSE 3.1.2.2



DRAWING IS NOT TO SCALE.
DIMENSIONS ARE IN MM.

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

PART C

(Minor Component)

Name of Work: Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

BLANK

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Schedule A to F (E & M Works) Minor Component

(Operative Schedules to be supplied to each intending bidder)

SCHEDULE 'A'

Schedule of Electrical quantities (as per PWD-3) enclosed.

Estimated Cost of work :

Part I : Major component (civil) - **Rs. 1,04,47,987/-**

Part II : Minor component (electrical) - **Rs. 20,37,155/--**

SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

S.no.	Description of Item	Quantity	Rates in figures & words at which the material will be charged to the Contractor	Place of issue
1.	2	3.	4	5.
----- NIL -----				

SCHEDULE 'C'

Tools and plants to be hired to the contractor

S.No.	Description	Hire charges per day	Place of Issue
1.	2.	3.	4.
All the required T & P shall be arranged by the contractor.			

SCHEDULE 'D'

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

SCHEDULE 'E'

Schedule of component of cement, steel, other Materials, Labour etc. for price escalation.

As per Part - 'A'

SCHEDULE 'F'

Reference to General Conditions of contract: Please refer to Schedule 'F' of Part 'A'

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Name of Work: Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.

Estimated cost

Minor Component (Electrical) : **Rs. 20,37,155/--**

Earnest money : As per Schedule 'F' of Part 'A'

Performance Guarantee : Please refer to Schedule 'F' of Part 'A'

Security Deposit : Please refer to Schedule 'F' of Part 'A'

General Rules and Directions:

Officers inviting bid	As per Part - 'A'
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3	see below

Definitions:

2(v)	Engineer-in-Charge	Executive Engineer (E) -Hyderabad, CPWD, Hyderabad.
2(viii)	Accepting Authority	As per Schedule 'F' of Part 'A'
2(x)	Percentage on cost of materials and labour to cover all overheads and profits.	15%
2(xi)	Standard Schedule of Rates	DSR 2025 (E&M), with correction slips upto date.
2(xii)	Department	Central Public Works Department
9(ii)	Standard CPWD contract form	As per Schedule 'F' of Part 'A'
	Clause 1 :	
i)	Time allowed for submission of performance guarantee from the date of issue of letter of acceptance in days	As per Schedule 'F' of Part 'A'
ii)	Maximum allowable extension with late fee @0.1% per day of performance guarantee amount beyond the period as provided in (i) above	As per Schedule 'F' of Part 'A'
	Clause 2	
	Authority for fixing compensation under clause 2.	Please refer Schedule 'F' of Part A

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

	Clause 5	
	Number of days from the date of issue of letter of acceptance for reckoning date of start.	Please refer Schedule 'F' of Part A

Mile stone(s) as per the table given below

TABLE OF MILESTONE (S)
Electrical & Mechanical services
Part C 1 - IEI& Fans

S. N O.	Description of Milestone (Physical)	Time allowed in days (from the date of start)	Amount to be with held in case of non-achievement of milestone. (% of tendered amount of respective Electrical component)
1.	Designing, preparation of drawing by consultant and Submission of drawings, data sheets, makes for approval	30 days	0.5 %
2.	Laying of conduits and switch board boxes along with civil progress, supply of wires and DBs.	50 days	1.25 %
4.	Completion of wiring, Supply of Fittings and Fans	130 days	1 %
5.	Installation of Fittings and Fans & AC's	155 days	0.5 %
6	Handing over	180 days	0.25 %

	Time allowed for execution of work	As per Schedule 'F' of Part 'A'
	Authority to decide :	
	(i) Extension of time	As per Schedule 'F' of Part 'A'
	(ii) Rescheduling of mile stones	As per Schedule 'F' of Part 'A'
	(iii) Shifting of date of start in case of delay in handing over of site	As per Schedule 'F' of Part 'A'
	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. 20.0 lakhs or as mutually agreed by both parties

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

	Clause 7A and 7B		As per Schedule 'F' of Part 'A'
	Clause 8A		As per Schedule 'F' of Part 'A'
	Clause 10 A List of testing equipments to be provided by the contractor at site lab		As per Schedule 'F' of Part 'A'
	Clause 10 B(ii)		
	Whether Clause 10 B(ii) shall be applicable		
	Clause 10C Component of labour expressed as percent of value of work		C1- 25%
	Clause 10CA		Not applicable
	Clause 10CC		As per Schedule 'F' of Part 'A'
	Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column.	12 months	
	Clause 11		
	Specifications to be followed for execution of work		DSR 2025 (E&M), CPWD General Specifications Part-I Internal 2013, Part-II External 1994, Part V Wet Riser & Sprinkler system 2020 , Part VI Fire detection and alarm system 2018 , General specifications for Heating , ventilation & Air conditioning (HVAC) 2017 with upto date correction slips
	Clause 12		Original Works
	12.2 & 12.3		
	Deviation limit beyond which clause 12.2 & 12.3 shall apply for building work		100% (Hundred Percent)
	Clause 16		
	Competent Authority for deciding reduced rates		Chief Engineer-Hyderabad, CPWD, Hyderabad

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

	Clause 18	
	List of mandatory machinery, tools & plants to be deployed by the contractor at site.	T& P and machinery required at site as per site condition & as directed by the Engineer in charge
	Clause 19 C	As per Schedule 'F' of Part 'A'
	Clause 19 D	As per Schedule 'F' of Part 'A'
	Clause 19 G	As per Schedule 'F' of Part 'A'
	Clause 19 K	As per Schedule 'F' of Part 'A'
	Clause 25	
	(i) Conciliator (ii) Arbitrator Appointing Authority (iii) Place of Arbitration	As per Schedule 'F' of Part 'A'

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

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

S.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	
						Figures	Words
As per Schedule F of Part A							

Clause 38

(i) (a) Schedule / statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates 2025 printed by C.P.W.D with correction slips issued upto date.

**Executive Engineer (E), HYD-I
CPWD, Hyderabad.**

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

SPECIAL CONDITIONS (FOR ALL E & M COMPONENTS)

1. The applicant should either himself meet the eligibility conditions for the respective E&M components or otherwise he will have to associate with agencies, fulfilling the eligibility requirements and the consent letter from at least **One** eligible Associate Agency of the respective components of E&M work shall also be submitted as per attached **Proforma**.

In case the main contractor is himself eligible (as per eligibility criteria) for executing any specific minor component and intends doing the job himself, he may not be required to associate with another agency for that minor component of work. In such cases the main contractor also has to submit the documents as per eligibility criteria mentioned for associated agency of individual E&M component.

2. The main tenderer have to submit the following documents for association of electrical contractor within 30 days of award of work or 15 days before start of electrical related work whichever is earlier.
 - (i) In support of the eligibility conditions of the proposed associated electrical contractor, copy of their registration documents, Electrical Contractor's License, PAN Card, GST Registration and **verifiable work completion certificates** duly attested by the applicants (Main Contractor) shall be submitted to the concerned (Minor Component in -charge) Executive Engineer (Electrical), CPWD, Hyderabad, for deciding the eligibility. Proposal for associating agency for minor components of work shall be submitted in Form- "H" of this tender document from each associate independently for all electrical and mechanical components.
 - (ii) The Executive Engineer (E) will give approval for associating within 7 days after receipt of proposal from major contractor, if submitted documents are found in order.
3. Thereafter, the main contractor will have to submit MOU signed with the approved associated agency for minor component. The MOU in the enclosed form (Form -I) shall be signed by both the parties' i.e. main contractor as 1st party and associated electrical contractor as 2nd party for all electrical and mechanical components and submit the same within 7 days of receipt of approval from Executive Engineer(E) or before start of Electrical component of work, whichever is earlier.
4. The main contractor has to enter into agreement with contractor associated by him for execution of minor component. Copy of such agreement shall be submitted to Executive Engineer (E) in charge of minor component as well as Executive Engineer, in-charge of major component.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

5. In the event of the concerned E&M agency (Associated agency) is not performing satisfactorily or failure of associate contractor to complete the E&M work, the main contractor on written directions of the department, shall remove the associate agency deployed on the work and shall submit name of new associate agency who fulfill the conditions mentioned in NIT to execute the left over work without any loss of time or variation in cost to the department. Such associate shall also give an undertaking along with the main tenderer that both of them shall stand guarantee for the equipments already supplied for which payment has been released by the Department, in part. If any equipment supplied for the work, during the currency of the earlier Associate contractor and paid partly by the Dept., 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 Engineer-in-charge of the work.
6. Materials for all E & M works shall be procured only from the original equipment manufacturers/authorized dealers of OEM. The contractor shall submit all documentary details in fulfillment of this conditions regarding procurement of materials including relevant test certificates.
7. 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.
8. The main contractor shall be responsible and liable for proper and complete execution of the Electrical and Mechanical component of works and ensure coordination and completion of both civil and electrical work.
9. The associate contractor along with main contractor or his representative shall attend the inspection of the work by the Engineer-in-Charge of E&M works as and when required.
10. **Before completion of defect liability period of one year, the main contractor has to submit Security Deposit of 5% of the price quoted by him for SITC of LED fittings for the remaining 4 years warranty period in acceptable form i.e. FDR/ Bank guarantee. The Security Deposit deducted from the bills of contractor shall be refunded to the main contractor only after submission of Security Deposit for LED fittings, failing which the Security Deposit against LED fittings shall be deducted from Security Deposit for total work and balance amount only will be refunded after completion of defect liability period. The LED Security Deposit will be released after completion of warranty period of 5 years to the agency, who have submitted the LED Security Deposit.**

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

11. For components of E&M works, the eligibility criteria will be as detailed below:

Sl no	Component of E&M works	Estimated cost in Rs.	Eligibility
Package C1	Providing LED fittings	20,37,155/--	If the main contractor does not have valid electrical license for executing this Sub head work then, he shall associate with contractor registered in appropriate Class of Building & Roads category in CPWD for execution of this Sub head of work, possessing valid Electrical Contractor License of appropriate Voltage issued by competent authority.

Note-1: The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple interest rate of 7% per annum, calculated from the date of completion to the previous day of the last date of receipt of application for tender.

Note-2: Components of work executed other than those included in definition of similar work shall be deducted while calculating cost of similar work. The main Contractor shall submit abstract of cost of work in support of this.

12. If the main contractor fails to associate with agencies for execution of minor components of work within 30 days of award of work OR 15 days before start of minor component of work whichever is earlier or furnishes incomplete details or furnishes details of ineligible agencies even after the giving sufficient opportunity, the entire scope of such component of work shall be withdrawn from the main agency and the same shall be got executed by the Engineer-in - Charge at the risk and cost of the main agency.
13. One year free Comprehensive maintenance of VRF system shall be got executed by original composite category contractor through OEM / Authorized Service provider. The contractor has to produce undertaking certificate as per proforma from manufacturer after award of work.
14. The proposal, Consent letter, MOU and undertaking from Lift manufacturer in respect of the association of lift manufacturer for above lift component shall be submitted as per formats provided in the NIT.
15. If the main contractor fails to associate with the Lift manufacturer for execution of the Lift component of work within 15 days of award of work OR before start of work whichever is earlier or furnishes incomplete details or furnishes details of ineligible agencies even after the tenderer is given due opportunity, the entire scope of such component of work shall be withdrawn from the tender and the same shall be got executed by the Engineer-in -Charge at the risk and cost of the main contractor.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Form -G**CONSENT LETTER FROM ELIGIBLE ASSOCIATE AGENCY OF MINOR COMPONENT OF WORK**

Name of Work: Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.

Agreement No:-

1. I / We hereby give my consent to associate with M/s, for executing the minor component of work of (Mention category).
2. I / We will execute the work as per specifications and conditions of the agreement and as per directions of the Engineer -in-Charge for the corresponding minor work till the completion of the work.
3. I / We will be responsible for necessary action to handover the installations and for rectification of defects and repair during the maintenance / warranty period.
4. Also I / We will employ full time technically qualified Engineer / supervisor for the minor component of the work as required for the work. I / We will attend inspection of officers of the department as and when required.
5. Applicable for Internal EI Component:
 - (i) I/We will agree that I/we will obtain undertaking from LED manufacturers for 5 years warranty and submit to Engineer -in-charge.

Date:

Signature with date of Major component

Signature with date of Associate/ Minor Component

Contractor

Contractor

Address

Address

1. Witness with address

(From major component contractor side)

2. Witness with address

(From minor component contractor side)

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

FORM -H

Name of Work: Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.

Agreement No:-

PROPOSAL FOR ELIGIBLE ASSOCIATING AGENCIES FOR MINOR COMPONENTS OF WORK

I/we hereby propose the following agencies as per mentioned against each for executing corresponding minor components of work. Their consent letter are also attached

Sl.No	Name of Associated Contractor	Category and class of registration	Enlistment copy/completion Certificates attached	Monetary Limit of work	Validity of registration	Consent letter attached (Yes/No)
Part C1 Providing IEI & fans						
1						

Note: Self Attested photocopies of enlistment order, valid electrical contractor license, annual pre-qualification order, work experience certificates of each agency for each component of E&M work shall be submitted.

Signature of contractor

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Form- "I"**MEMORANDUM OF UNDERSTANDING (M.O.U)**
(to be submitted for each and every E&M component)

1. M/s. (Name of the firm with full address)

Enlistment Status

Valid Upto:

(Henceforth called the main Contractor)

2. M/s. (Name of the firm with full address)

Enlistment Status

Valid Upto:

(Henceforth called Associated Electrical Contractor or Electrical Contractor)

For the execution of Electrical Work "**Name of Work:** Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad."

Agreement No:-

(-----) as per schedule specifications, terms and conditions of the tender.

We state that M.O.U between us will be treated as an agreement and has legality as per Indian Contract Act (amended upto 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 this MOU allows. Both the parties shall be paid consequent to the execution as per agreement to the extent this MOU permits. In case of any dispute, either of us will go for mediation by the Engineer In charge. Any of us may appeal against the mediation to the Chief Engineer, CPWD, Hyderabad. His decision shall be final and binding on both of us.

We have agreed as under:

1. The electrical contractor will execute all electrical works in the wholesome manner as per terms and conditions of the agreement.
2. The electrical contractor shall be liable for disciplinary action if he fails to discharge the action(s) and other legal action as per agreement.
3. All the machinery and equipments, 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.
5. Site order book maintained for the said work shall be signed by the main contractor as well as by the Engineer of the Association Contractor and by Associated Contractor himself.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

6. All the correspondence regarding execution of the electrical work shall be done by the department with the Associated Contractor with a copy to the main contractor. In case of non-compliance of the provisions of agreement, the main contractor, as well as the associated contractor shall be responsible. The action under clauses 2 and 3 shall be initiated and taken against the main contractor.

SIGNATURE OF MAIN CONTRACTOR

CONTRACTOR

Date:

Place:

1. Witness with address
(From major component contractor side)

SIGNATURE OF ASSOCIATED
ELECTRICAL

Date

Place:

2. Witness with address
(From minor component contractor side)

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

GENERAL TERMS AND CONDITIONS APPLICABLE FOR ALL E&M COMPONENTS

1 GENERAL

1.1 The work shall be generally carried out in accordance with tender/bid specifications and the following specifications / rules.

- a) CPWD General Specifications for Electrical work Part I Internal – 2013, as amended up to date
- b) CPWD General Specifications for Electrical work Part II External - 1994, as amended up to date
- c) CPWD General Specifications for Electrical work Part III Lift & Escalators – 2003, as amended upto date
- d) CPWD General Specifications for Electrical work Part IV Substation – 2013, as amended upto date
- e) CPWD General Specifications for Electrical work Part V Wetriser & Sprinkler system – 2020, as amended upto date
- f) CPWD General Specifications for Electrical work Part VI Fire detection and alarm system – 2018, as amended upto date
- g) General specifications of Heating ,Ventilation & Airconditioning (HVAC) -2017 , as amended upto date
- h) Commercial and Additional conditions for this work.
- i) The Indian Electricity Act, 2003, as amended up to date
- j) Indian Electricity Rules 1956 amended up to date

1.2 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:

- a) Schedule of quantities
- b) Commercial and Additional conditions for this work
- c) General Conditions of Contract for CPWD Works
- d) Drawings
- e) CPWD General Specifications
- f) Relevant IS or any other International code in case IS code is not available.

These Commercial and Additional conditions are to be read in conjunction with above and in case of variations; specifications given in these additional conditions shall apply. However, nothing extra shall be paid on account of these additional specifications and conditions, as the same are to be read along with schedule of quantities for the work.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 1.3 This specification covers manufacture, testing as may be necessary before dispatch, delivery at site, all preparatory work, assembly and installation, commissioning putting into operation of equipment of all E&M components of the tender.
- 1.4 The tenderer should in his own interest visit the site and get familiarize with the site conditions before tendering.
- 1.5 No T &P shall be issued by the Department and nothing extra shall be paid on account of this.

2 COMMERCIAL CONDITIONS

- 2.1 Type of Contract: The work to be awarded by this tender shall be treated as indivisible works contract.
- 3 Income tax, GST, labour cess & other statutory deductions etc. shall be made at source as per the prevalent laws. The deductions of Security Deposit, Income-Tax etc. shall be done after calculation of the due payments and net payment shall be reduced accordingly.

4 RATES

- 4.1 The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including GST & labour cess), duties levies, octroi etc. and all charges for packing forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site including temporary construction of storage, risks, over head charges, general liabilities/obligations and clearance from CEA.
- 4.2 The department will not issue Octroi exemption certificate.
- 4.3 The contractor has to carry out maintenance as per manufacturer's standards for a period of 12 months from the date of handing over. Nothing extra shall be paid on this account.
- 4.4 In case the same item appears more than once in the schedule of work under the same sub head or among the different subhead of works, the lowest rate quoted for that item elsewhere shall be considered for other items also during evaluation of tender.

5 **COMPLETENESS OF TENDER**

All sundry equipment, fittings, unit assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections, and all other items which are useful and necessary for efficient assembly and installation of equipment and components of the work shall be deemed to have been included in the tender irrespective of the fact whether such items are specifically mentioned in the tender documents or not.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

6 **STORAGE AND CUSTODY OF MATERIALS**

The space, if available, may be used for storage of sundry materials and erection equipments or else the agency has to make his own arrangements. No separate storage accommodation shall be provided by the department. Watch and ward of the stores and their safe custody shall be the responsibility of the contractor till the final taking over of the installation by the department.

7 **CARE OF THE BUILDING:**

Care shall be taken by the contractor while handling and installing the various equipments and components of the work to avoid damage to the building. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove at his cost all unwanted and waste materials arising out of the installation from the site of work.

8 **COMPLETION PERIOD**

The completion period indicated in the tender documents is for the entire work of planning, designing, approval of drawings etc., arrangement of materials & equipments, delivery at site including transportation, installation, testing, commissioning and handing over of the entire system to the satisfaction of the Engineer-in-charge.

9 **GUARANTEE**

All equipments shall be guaranteed for a period of 12 months, from the date of taking over the installation by the department, against unsatisfactory performance and/or break down due to defective design, workmanship or material. 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 doing this, 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 & binding on the contractor.

9.2 The tenderer shall guarantee among other things, the following:

- a. Quality, strength and performance of the materials used as per manufacturers standards.
- b. Safe mechanical and electrical stress on all parts under all specified conditions of operation.
- c. Satisfactory operation during the maintenance period.

10 **POWER SUPPLY:**

The contractor has to make its own arrangement for power supply required for execution of the work.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

11 WATER SUPPLY:

The contractor has to make its own arrangement for water supply required for execution of the work.

12 ACCEPTABLE MAKES OF VARIOUS EQUIPMENTS:

The acceptable makes of various equipments/components/accessories have been indicated in "Acceptable Makes" appended with the tender documents. The tenderer shall work out the cost of the offer on this basis. Alternate makes are not acceptable.

13 DATA MANUAL AND DRAWINGS TO BE FURNISHED BY THE TENDERER:

13.1 After award of work

The successful tenderer would be required to submit the following drawings after award of work for approval before commencement of installation.

- a) General arrangement drawing of all equipments of E&M components as per individual E&M component
- b) Details of foundations for the equipments and the weights of assembled equipments.
- c) Any other drawings necessary for the job.

14 The successful tenderer should furnish well in advance three copies of detailed instructions and manuals of manufacturers for all items of equipments regarding installation, adjustments operation and maintenance including preventive maintenance & trouble shooting together with all the relevant data sheets, spare parts catalogue etc. all in triplicate.

15 EXTENT OF WORK

15.1 The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning, as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract as this is a turnkey job..

15.2 The cables and other items shall be brought at site after taking correct measurements

15.3 In addition to supply, installation, testing and commissioning, of all E&M equipment, following works shall be deemed to be included within the scope of work to be executed by the tenderer as this is a turnkey job.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- a) Minor building works necessary for installation of equipments, foundation, making of opening in walls or in floors and restoring them to their original condition finish and necessary grouting etc. as required.
- b) All necessary supports may be arranged.
- c) Testing of PTs/CTs for metering & protection purpose & relay calibration & setting.
- d) Getting CEA inspection done & obtaining approval for energizing the installation.
However, necessary fees for inspection shall be borne by the Department.

- 16 Exclusion and work to be done by other agencies:
The following shall be excluded from the scope of the work:

- a) Major dismantling of any existing building work.
- b) Electricity supply in sub-station building.

17 INSPECTION AND TESTING

- 17.1 All major equipments shall be offered for initial inspection at manufacturer's works. The contractor will intimate the date of testing of equipments at the manufacturer's works before dispatch. The successful tenderer shall give advance notice of minimum two weeks regarding the dates proposed for such tests to the department's representative to facilitate his presence during testing.

The Engineer-in-charge or his representative may witness such testing. The cost of the Engineer's visit to the factory will be borne by the Department. Equipments will be inspected at the manufacturer/ Authorized Dealers premises, before dispatch to the site by the contractor if so desired by the Engineer-in-charge. Engineer-in-charge at his discretion may waive of inspection at factory /at the manufacturer's works before dispatch.

- 17.2 Copies of all documents of routine and type test certificates of the equipment, carried out at the Manufacturer's premises shall be furnished to the Engineer-in-charge and consignee.
- 17.3 After completion of the work in all respects the contractor shall offer the installation for testing and operation.

18 COMPLIANCE WITH REGULATIONS AND INDIAN STANDARDS:

- 18.1 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:
- i) Factories Act.
 - ii) Indian Electricity Rules.
 - iii) B.I.S. & other standards as applicable.
 - iv) Workmen's compensation Act.
 - v) Statutory norms prescribed by local bodies like CEA, Power Supply Co., etc.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 18.2 After completion of the installation, the same shall be offered for inspection by the representatives of the Central Electricity Authority. The contractor will extend all help including test facilities to the representatives of CEA. The observations of CEA will be attended by the contractor. The installation will be commissioned only after getting clearance from CEA.
- 18.3 Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.

19 **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 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.

20 **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.

21 **COOPERATION WITH OTHER AGENCIES:**

The successful tenderer shall co-ordinate with other contractors and agencies engaged in the construction of buildings, if any, and exchange freely all technical information so as to make the execution of this work/contract smooth. No remuneration should be claimed from the department for such technical cooperation. If any unreasonable hindrance is caused to other agencies and any completed portion of the work has to be dismantled and re-done for want of cooperation and coordination by the tenderer during the course of work, such expenditure incurred will be recovered from the successful tenderer if the restoration work to the original condition or specification of the dismantled portion of the work was not undertaken by the tenderer himself.

22 **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.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

23 **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.

24 **PAINTING:**

This shall include cost of painting of the entire installation. The major equipments like HT panel, transformers, L T panel, bus duct, cable trays etc. shall be factory final finish painted. The agency shall be required to do only touching to the damages caused to the painting during transportation, handling & installation at site, if there is no major damage to the painting. However hangers, supports etc. of bus trunking & cable tray etc. shall be painted with required shade including painting with two coats of anticorrosive primer paint at site.

25 **TRAINING:**

The scope of works includes the on job technical training of two persons of Department at site. Nothing extra shall be payable on this account.

26 **MAINTENANCE:**

26.1 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.

27. Approval of drawings makes and models of equipment/materials for all E&M components:

27.1 The agency shall submit drawings and details such as makes and models of the equipments/materials offered by him along with specifications for all E&M components to the Engineer-in-charge of the work, before ordering the equipment/materials for approval of the department.

27.2 The Engineer-in-charge shall scrutinize the proposal and approve the makes and models which are acceptable as per the schedule, specifications, conditions of the agreement and inform the agency for procurement. The approving authority shall be technical sanctioning authority of E&M component.

27.3 After approval of the equipment/materials by the department the agency shall procure the equipment/materials from the OEM/authorized distributor/dealer as the case may be:

28. Adequate care that only tested and genuine materials of proper quality are used in work shall be ensured by firm. The firm shall also ensure that:

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- i. Material will be ordered & delivered at site only with the prior approval of the department to ensure timely delivery.
- ii. As and when the order is placed for the fittings/ fixtures, cables, switchgears, poles, other main items etc, its copy shall be endorsed to the CPWD Engineer-in-charge.
- iii. The contractor will submit makes & brands of electrical fittings wires & cables, conduits and switchgears, rising mains, poles , outdoor fittings etc. of preferred make list as per tender documents for approval of Engineer-In-Charge whose decision will be final in the matter.
- iv. The firm will be required to procure material directly from the manufacturer/ authorized dealers to ensure genuineness & quality and as per the approved makes only. Proof in this regard shall be submitted by the contractor if required by the department.
- v. Inspection at factory or at godown, as required, shall be arranged by the firm for a mutually agreed date.
- vi. Delivery of material shall be taken up only with the consent of department, after clearance of the material.
- vii. Department shall reserve the right to waive inspection in lieu of suitable test certificate, at its discretion.
- viii. All the materials to be supplied by the contractor shall be procured & brought to site as per requirement at site of work in consultation with department so that these materials are not damaged & their manufacturer's warrantee is not lost.

28. Safety Codes & Statutory Regulations:

- a. Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.
- b. Successful tenderer shall arrange for compliance with statutory provisions of safety regulations and departmental requirements of safety codes in respect of labour employed on the work by the tenderer. Failure to provide such safety requirement would make the tenderer liable for penalty of Rs.1000/- for each default. In addition, the department will be at liberty to make arrangement for the safety requirements at the cost of tenderer and recover the cost thereof from him.

29. QUALITY ASSURANCE:

The technical data sheet and manufacturing drawing of all equipments and materials as per contract specifications shall be prepared by the respective manufacturer's and will be submitted by contractor duly signed before placing the order or manufacturing the material. The engineer-in-charge shall approve as per contract conditions.

All the materials to be used in the work shall be new and of good quality and shall be got approved from the Engineer-in-Charge before use at site. The equipment/materials shall be not older more than 6 months from the date of receipt at site. The equipment/materials shall be procured directly from the manufacturer or authorized dealer and delivery challan/invoice/ proof of dispatch of material of the Agency from where the material is purchased in support of genuineness of material shall be submitted along with bill for verification.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Manufacturer test certificates of all the equipment and material shall be submitted along with supply of materials/equipment.

The materials shall be tested from 3rd party laboratories. The laboratories shall be Government Labs/ Government Autonomous bodies or as approved by competent authority. The agency shall conduct 3rd party lab testing of materials/equipments and submit relevant documents/test reports to Engineer-in-charge before use at site wherever applicable.

The layout/ working drawings/ shop drawings etc., shall be prepared in AutoCAD or equivalent software by the contractor for all the services as defined in CPWD Specifications and agreement conditions. The engineer-in-charge shall approve all the drawings before start of execution of work.

30. TESTING PLANS:

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.

The testing plan for quality control for major E&M services is attached as below :-

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	



A- Internal EI								
Stage /SI no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatch required	Whether Manufacturer's test 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 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	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

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	



Stage / Sl no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatch required	Whether Manufacturer's test certificates required	Sample Size	Location of Test	
							At manufacturer works	At third Party Lab.
5	Rigid PVC Conduit	IS 3419 :1989	up to 2500 mtr	Y	N	N	N	N
			>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

X Stands No Not applicable.

X X X

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	



B- Street /Compound Lighting								
Stage /SI no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatch required	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 with tender specs	up to 100	Y	Y	N	N	N
			>100	Y	Y	2%	Y	N
4	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
5	DWC/ Corrugate d 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
6	Fittings	Whether in conformity with tender specs	>100	Y	Y	NA	N	N

Quality Assurance Policy For E&M Works

21

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	



C- Sub Station, DG Set, UPS

Stage / SI no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatch required	Whether Manufacturer's test certificates required	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
5	Capacitor 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

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	



Stage /Sl no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatch required	Whether Manufacturer's test certificates required	Sample Size	Location of Test	
							At manufacture works	At third Party Lab
7	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	N
			Length > 500 mtr	Y	Y	One 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	Transformer	CPWD Specs. Part IV/QA Plan: Physical verification of accessories as per agreement and Routine tests as per IS:2026/IS 11171:1985(whichever 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 withstand 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

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	



Stage /Sl no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatch required	Whether Manufacturer's test certificates required	Sample Size	Location of Test	
							At manufacture works	At third Party Lab
10	DG set	Load testing as per CPWD specs	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	Up to 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

X X X

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	



D- Air Conditioning								
Stage /Sl no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatch required	Whether Manufacturer's test certificates required	Sample Size	Location of Test	
							At manufacturer works	At third Party Lab.
1	Chiller	CPWD specs part VI/ECBC Code/Agreement/QA Plan: COP, Capacity, IKW/TR, IPLV/ NPLV	Any	Y	Y	1	Y*	N
2	Package AC Unit	CPWD specs part VI/ECBC Code/Agreement/QA Plan: COP, Capacity, IKW/TR	Any	Y	Y	1	Y*	N
3	Split/WT AC	As per tender specs. and BEE ratings.	upto 50	Y	Y	NA	N	N
			>50	Y	Y	1 for every 50	Y*	N
4	Pumps	As per tender specs.	Any capacity	Y	Y	100%	N	N
5	MS Pipes	To be tested for thickness and weight as per applicable IS	Any	Y	Y	1 for every 100 mtr	N	N
6	Insulation / Acoustics material	To be tested for Density and K value as per tender specs.	up to 1000 Sq mtr	Y	Y	NA	N	N
			>1000 Sq mtr	Y	Y	1 Sample for every 1000 Sqmtr	N	Y
7	Fans for AHU ,Ventilation and Pressurization	CPWD specs. part VI/QA Plan: Fans to be tested for Db level, static pressure, CFM and leaving velocity	up to 20 fans	Y	Y	NA	N	N
			>20 fans	Y	Y	1 for every 20 fans	Y	N
8	AHU's	CPWD specs. part VI/QA Plan: To be tested for capacity in assembled condition, Fabrication, Cooling coil and filters material & workmanship to be inspected critically.	up to 20 AHU's	Y	Y	NA	N	N
			>20	Y	Y	1 for every 20 AHU's	Y	N

Quality Assurance Policy For E&M Works

25

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	



Stage /Sl no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatch required	Whether Manufacturer's test certificates required	Sample Size	Location of Test	
							At manufacturer works	At third Party Lab.
9	Ducting material	As per relevant BIS	up to 1000 Sq mtr	N	N	NA	N	N
			> 1000 Sq mtr	Y	Y	1 Sample for every 1000 Sqmtr	N	Y
10	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
11	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
12	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
13	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	N
			Length > 500 mtr	Y	Y	One piece for every 500 Mtr	N	Y
	Y* Tested for its capacity at AHRI certified test bed (either at manufacturer's work or at Illrd Party)							

_ X _ X _ X _

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	



E- Fire Fighting

Stage /Sl no	Material / Process	Standard Applicable/ Test Required to be Done	Total Qty (each type) reqd. in agreement or lot size whichever is less	Whether Proof of Dispatch required	Whether Manufacturer's test certificates required	Sample Size	Location of Test	
							At manufacturer 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
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 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
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	

Testing plan includes all materials/ equipments using in this work shall be tested as per CPWD specifications/ manuals with amendments /correction slips upto last date of submission of bid. All expenditure to be incurred for executing this testing plan shall be borne by the contractor.

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

C.1 COMMERCIAL AND ADDITIONAL CONDITIONS FOR INTERNAL ELECTRICAL INSTALLATIONS.

1 **General:**

- 1.1 The Department shall not issue any T & P and nothing extra shall be paid on account of this.

2 **Guarantee & Defect Liability Period:**

All the equipments shall be guaranteed for a period of 12 months from the date of taking over the installation by the department against unsatisfactory performance and / or break down due to defective design, workmanship of material. 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 doing this, 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.

Sl.No.	Description of item	Guarantee period (Year)
1	All items other than LED Fittings	1
2	LED fittings	5

The tenderer shall guarantee among other things, the following vis-à-vis specifications.

- a) Quality, strength and performance of the materials used.
- b) Satisfactory operation during the maintenance period.
 - (i) Ceiling fans, Exhaust fans are to be guaranteed for 1(one) Year.
 - (ii) LED fittings, as a whole including driver are guaranteed for 5 years. All the LED fittings are to be suitably engraved / stickered inside with the Agreement Number and date of handing over.
 - (iii) The guaranty for LED fittings is to be got submitted from the manufacturer also in addition to the guarantee from the contractor. The manufacturer should give undertaking that in case of discontinuation of model and non-availability of spares, they will replace the fittings with equivalent/ high end model in case of manufacturing defect during the warranty period of 5 years in Annexure - X.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 3 Data and Program to be furnished by the tenderers:

The Contractor shall prepare the program chart for the execution of the work showing clearly all activities from the start of work to the completion required for the completion of the work within the stipulated period and submit the same to the Engineer-in-Charge within fifteen days after the issue of letter for commencement of the work. The Contractor shall also submit monthly programme and progress reports and update / re-schedule the same every month. These shall be submitted by the contractor in soft copy also besides forwarding hard copy of the same.

- 4 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:

- a) Schedule of quantities
- b) Commercial and Additional conditions for this work
- c) General Conditions of Contract for CPWD Works
- d) Drawings
- e) CPWD General Specifications
- f) Relevant IS or any other International code in case IS code is not available.

- 5 The main contractor shall also enter into a 'Memorandum of understanding' with the approved associated contractor on Non-Judicial Stamp Paper as per the enclosed proforma and submit this 'MOU' duly completed (duly signed by him and the associated Contractor) before commencement of work.

- 6 Executive Engineer (Elect.) shall be the Engineer-in-Charge as far as electrical works are concerned. Separate tender form for electrical component is appended with this tender. It will be obligatory on part of the main contractor to sign the tender documents for all the components.

- 7 The main agency shall be responsible for all acts of omissions and submissions of the electrical contractor or sub-contractor engaged by him, even with approval of department.

- 8 Approval of the Engineer-in-charge shall be taken well in advance for all the materials to be supplied and used in all the works by the contractor.

- 9 The contractor has to make his own arrangements for stores and watch and ward and no extra claim for this will be entertained.

- 10 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.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

11 **Payments 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.

A] Items connected with point wiring, circuit wiring, sub-main wiring, power point wiring and light plug wiring.

S.N	Stage of work	Percentage of quoted Rate
A	On laying of conduits with accessories, switch boxes, etc.	35%
B	On drawing of wires i/c terminations, switches, sockets, cover plates etc.	50%
C	On completion of item and after testing and commissioning.	10%
D	At the time of payment of final bill	5%

B] Items of Distribution Boards, MCBs, RCBOs, fittings and all other equipment etc.

S.N	Stage of work	Percentage of quoted 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 of testing and commissioning.	10%
D	At the time of payment of final bill after final handing over	5%

For other items, the part rates will be decided by the Engineer-In-Charge of the work and shall be binding on the contractor.

12 The main contractor shall be responsible for coordinating the activities of all works and will ensure progress of works as per laid down program.

13 The main contractor and / or his Associated electrical Contractor or his representative is bound to sign the site order book as and when required by the Engineer-in-charge and will comply with the remarks therein.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 14 The contractor shall make his own arrangement at his own cost for electrical / General Tools and plants required for the work.
- 15 The connections, inter-connections, earthing and loop earthing shall be done by the contractor her ever required to be done for energization of the installation and nothing extra shall be paid on this account.
- 16 The contractor must be able to work on concrete slabs / walls as and when required and in complete coordination with the civil works. Cutting of chases in the plastered wall shall in no case be allowed. The contractor shall fix conduits and boxes in the walls soon after the brick work is completed and finish the chase to rough surface with proper cement sand mixture. Only in exceptional cases e.g. where cutting of plastered surface cannot be avoided it will be contractor's responsibility to ensure that plastering is done to match the original finish at no extra cost.
- 17 The contractor shall remove all the debris due to the electrical works from the site as soon as the work is completed.
- 18 The wiring and conduit route shall be marked by the contractor in the drawings first, and shall be got approved from the Engineer-in-charge.
- 19 Some light points in lobby / corridors/ stair case/ lift shaft etc are group controlled which will be measured as per Items mentioned under the Schedule of Quantities.
- 20 The rupturing capacity of the MCB's shall be 10 KA. The MCB's shall have ISI mark. Quantities of MCBs of different rating of 6 amps to 32 amps shall be brought in consultation with the Engineer-in-Charge or his representative.
- 21 All the MCCBs shall be rated for $I_{cs}=100\%I_{cu}$
- 22 The copper wire to be used on this work shall be FRLS type and ISI marked.
- 23.1 The make of switch boxes shall be the same as that of switches. Only the required knockouts of the switch boxes are to be removed for terminating the conduit pipes with PVC glands / check nuts.
- 23.2 Make of MCB/MCCB shall be the same as the make of MCB DB.
- 23.3 All the switch boxes, MCBDBs are to be covered with plastic sheet / petroleum gelly when installed in brick work till the plastering / painting is done to avoid sticking of cement plaster/ splashes of the paint. Cement plaster / paint are to be cleaned immediately after plaster to avoid rusting of switch boxes and MCB DBs. The plastic sheet is to be removed at the time of handing over.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 23.4 If two module sockets are used for 15 amp power plugs, one blanking plate is to be fixed by the side of socket to avoid interference of larger size plug tops. Nothing will be paid extra for blanking plate and larger box size.
- 24 The Electrical works shall be carried out by the contractor, side by side with the progress of the civil works.
- 25 The Contractor shall furnish documentary proof like delivery challans of purchasing Wires, Modular switches & accessories, MCBs, MCBDB, Fittings, accessories and other items from the manufacturers or their authorized dealers to the satisfaction of the Engineer-in-charge.
- 26 All PVC conduits accessories shall be of the same make as conduits. The Conduits shall be terminated at switch boxes/metallic junction boxes with suitable PVC glands/check nuts.
- 27 Cutting of brick walls shall be with chase cutting machine only. All repairs and patch works shall be neatly carried out to match the original finish and to the entire satisfaction of the Engineer in Charge.
- 28 All the sub main and circuit wiring includes loose wire for connections inside switch boxes and MCB DB s. No payment for these loose wires shall be made. However wires within the cubicle panel will be measured and paid under relevant item of work.
- 28.1 All the circuits / sub-main wiring are to be suitably numbered with stickers / marker pen at LT panel, MCBDBs, switch boards (on backside of cover plate) for ease of maintenance. Nothing shall be paid extra on this account.
- 29 The contractor shall submit the completion plan separately in triplicate on blue print/ computer plotted with one set on tracing "Cloth" as per Clause-8 of the contract within 30 days of the completion of work. In case, the contractor fails to submit the plan, he shall be liable to pay a sum equivalent to 2.5% of the value of the work subject to a ceiling of Rs.25000.
- 30 To facilitate drawing of wires, 18 SWG GI fish wire shall be provided along with laying of recessed conduit for which no extra payment shall be made. Conduits laid for other services, like fire alarm, PA etc., where wiring is not done along with IEI works, fish wire shall be invariably drawn.
- 31 The connection between incoming switch / isolator and bus bar shall be made with suitable size of thimble and cable at no extra cost.
- 32 Copper conductor of insulated cables of size 1.5 Sq.mm and above shall be stranded and terminals provided with crimped lugs.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

- 33 All MS junction box cover should be of phenolic laminated / good quality plastic sheet of thickness not less than 3mm and for which nothing extra shall be paid on the account.
- 34 All sub-main wiring shall be terminated in the main board with suitable copper lugs and thimbles for which nothing extra will be paid on this account.
- 35 All hardware items such as screws, thimbles, GI wire etc. which are essentially required for completing an item as per specifications will be deemed to be included in the item even when the same have not been specifically mentioned.
- 36 All hardware items such as nuts/ bolts/ screws/ washers etc. to be used in work shall be zinc/ cadmium plated iron.
- 37 Any conduit which is not be wired by the contractor shall be provided with GI fish wire for wiring by some other agency subsequently. Nothing extra shall be paid for the same.
- 38 While laying conduit, suitable size junction boxes shall be provided for pulling the wire as per the decision of the E-in-C.
- 39 Materials to be used in work are to be ISI marked. The make of the materials have been indicated in the list of acceptable makes. No other makes will be acceptable. The materials to be used in the work shall be got approved by the Engineer in Charge / his representative before its use at site. The E-in-C shall reserve the right to instruct the contractor to remove the material which, in his opinion, is not acceptable.
- 40 Where switches/ sockets/ regulator/ telephone/ TV / internet outlets are to be provided, the same shall be of only one make.
- 41 While laying conduits for fire alarm system, sufficient junction outlets are to be provided as per the direction of the Engineer-in-Charge for detectors as required, for which no extra payment shall be made.
- 42 Wherever light fittings are proposed to be provided on the false ceiling, the respective light / fan point wiring will have to be brought upto the terminal of the light fittings / fans by the contractor. Flexible metal conduits shall be used for drawing wires from PVC conduits on ceiling to fittings on false ceiling and nothing extra shall be paid to the contractor for the same. The height from false ceiling to ceiling is about 1.2 metres.
- 43 In case the same item appears more than once in the schedule of work under the same sub head or among the different subhead of works, the lowest rate quoted for that item shall be taken for other items also.
- 44 The work should be carried out **at ARCI Campus, Balapur, Hyderabad.**
- 45 All statutory deductions like Income Tax, GST, Labour welfare cess etc. shall be deducted from the bills.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

46 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.

47. LED Luminaire Specifications.

S. No	Criteria	Specification
1	Luminaries configuration/ technical requirement	As per the description mentioned in BOQ
2	Housing/ body of fitting	a) CRCA/ Extruded Aluminum for Indoor fittings. b) Pressure Die cast aluminum for outdoor fittings.
3	Cover/ Diffuser	Poly carbonate/ Acrylic UV protected/ PMMA for indoor / Toughened glass for outdoor.
4	Finish	Aesthetically designed housing with corrosion resistant powder coating.
5	Operating Voltage	100V to 300V universal electronic driver with internal surge protection.
6	Voltage Dips& Interrupts	As per IEC 61000-4-11
7	Frequency	47 to 50 Hz
8	Fixture Ambient temperature	+ 40 °C
9	Operating temperature	Range from 0 °C to +55 °C
10	Power factor	>0.95
11	Optical assembly	Array of medium power LEDs/ COB
12	Luminous flux	As per BOQ
13	Efficacy of Luminaire system (including power loss)	>85 lumen per watt for indoor and >80 lumens for outdoor
14	Efficacy of LED	>100 lumen per watt
15	Co-related colour temperature	As per BOQ
16	C.R.I.	For indoor lightings >80 and for outdoor lighting >70
17	Heat dissipation/ Heat sink	Well-designed thermal management system with aluminium heat sink.
18	Driver efficiency	> 85%
19	Make of LED	CREE/ LUMILEDS/ OSRAM/ NICHIA/ PHILIPS/ WIPRO/ BAJAJ/ HAVELLS
20	LED Lifespan & Luminaire photometric data	IESLM79 and IESLM80 respectively (50000 Hrs)
21	THD Harmonics	< 10%
22	Lumen maintenance @85deg c on LED life	Minimum 70% up to 50000 hrs (Indoor application) and Life expectancy 50,000 hrs for LED

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

23	Surge Voltage	Minimum 2 kV L, N for Indoor Lighting , minimum 4kv for outdoor lighting
24	Outer Body Luminaire Temperature	Max. up to 70 Deg C (with +/-5 Deg) at 30 Deg C ambient Temperature
25	Standard Warranty	5 Years

48. Edge lit LED fittings are not acceptable.

49. Before completion of defect liability period of one year, the main contractor has to submit Security Deposit of 5% of the price quoted by him for SITC of LED fittings for the remaining 4 years warranty period in acceptable form i.e. FDR/ Bank guarantee if the major contractor executes or obtain from his associated agency and submit the same to the concerned Executive Engineer (E). The Security Deposit deducted from the bills of contractor shall be refunded to the main contractor only after submission of Security Deposit for LED fittings, failing which the Security Deposit against LED fittings shall be deducted from Security Deposit for total work and balance amount only will be refunded after completion of defect liability period. The LED Security Deposit will be released after completion of warranty period of 5 years to the agency, who have submitted the LED Security Deposit.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

ANNEXURE - X
UNDERTAKING LETTER FROM MANUFACTURERES OF LED FITTINGS

Name of Work: Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.

Agreement No:

Name of Agency:

We hereby agree that

1. All the LED fittings supplied by us are guaranteed for five years including drivers from the date of handing over.
2. 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

(Authorised signatory of manufacturer of LED luminaires)

Counter Signature:

Major contractor

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

LIST OF PREFERRED MAKES**This makes are used for Extra item for future**

Sr. No.	Product	Makes
1.	Diesel Engine	• Cummins • Kirloskar • MTU • Caterpillar • Volvo Penta • Perkins
2.	Synchronization Controller	• Deif • Comap • Wood Ward
3.	Alternator	• Kirloskar • Stamford • Leroy Somer • ABB • Siemens • C&S Electric
4.	Moulded Case Circuit Breakers	• Legrand (DPX3) • L&T (D-sine) • Schneider Electric (Compact NSX/ EasyPact CVS) • ABB • Siemens
5.	Air Circuit Breakers	• L&T • Siemens • Schneider • Legrand • ABB
6.	MCBS	• Legrand • Schneider Electric • Hager • L&T • ABB • Siemens • Goldmodel
7.	Digital Meters	• Conzerv • L&T • AE • MECO • Rishab

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Makes
		• Prok Devices
8.	1.1KV/ 11 kV grade aluminium conductor. XLPE insulated armoured UG cables	• KEI • Gloster • Finolex • NICCO • Universal • Havells • BATRA HENLAY • HVACPPL • OCI •
9.	H T Jointing kit / End termination joint	• 3M • Tropolin • Densons • Raychem • M-Seal • CCI-Xicon • Mahindra
10.	Indication Lamps (LED type), Push Buttons	• Siemens • BCH • L&T • Telemecanique • Vaishnav • Emco • Kaypee
11.	TTA Panel	• ABB • Siemens • L & T • Schneider • Legrand
12.	All other items not covered above	As per approval of the Engineer-in-charge.

Note: 1) 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 make brands out of the above list. Also the firm shall produce proof of purchase of materials for payment.

Components with country of origin of China are not acceptable.

// Contractor //

Executive Engineer (E)-II-HYD,

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

IEI & Fans including Power Wiring, Telephone wiring and LAN wiring

Sr. No.	Product	Make
13.	Wires (PVC Insulated copper conductor cable FRLS/HFFR - ISI marked)/ Telephone cables / Submersable cables/ Co- axial /TV cables	• Havells • Anchor • Finolex • KEI • L&T • RR Kabel • Goldmedal • Finecab • Pawan-Cab • Sudhakar • South king • Gloster • Orbit • Panasonic • Bonton • BCH • Nakoda • AKG • Asmon • Greatwhite • Fortunarrrt • Ollvin • BATRA HENLAY • OCI •
14.	PVC Conduits (ISI marked) (Color of conduit : Ivory/ Grey)	• Precision • AKG • BEC • GM • Sudhakar • Goldmedal • DEC • Panasonic • Avon Plast • Clipsal
15.	High Mast Lighting pole	• Bajaj • Valmont • Crompton • utkarsh
16.	Steel Conduit (ISI marked)	• BEC • Bharat • Gupta • AKG • Precision

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		• Goldmedal
17.	MCB DBs/ Industrial Socket outlets/	• Legrand • Hager • L&T • SIEMENS • Schneider Electric • ABB • C&S Electric • BCH • Greatwhite • Havells (Stadx) • Panasonic
18.	MCBs/RCBO/ Isolators	• Legrand • Schneider Electric • ABB • C&S Electric • Hager • L&T • SIEMENS • BCH • Greatwhite • Havells (Stadx) • Panasonic • Goldmodel
19.	MCCBs	• Legrand (DPX³) • L&T (D-sine) • C&S Electric • SIEMENS (3VL) • BCH • Schneider Electric (Compact NSX/Easy pact CVS) • ABB(T-Max) • Panasonic
20.	LAN cable (Structured Cabling)	• Panduit • Belden • Schneider • Systimax(COMMSCOPE) • Molex • Legrand • Extreme • Goldmodel
21.	Fibre Management System	• Panduit • Belden • Schneider • Systimax(COMMSCOPE)

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		• Legrand
22.	Modular Switches/ Sockets/ TV Socket/ Telephone sockets/ Data sockets/ Electronic Regulators/ AC Starter Switch etc.	• Legrand (Myris) • MK (Blenze plus) • Panasonic • Havells(Crabtree) • Wipro: Northwest : Stylus+/ Goldmedal • Greatwhite
23.	Celing rose	• Antex • Leader • Emperor • Anchor • Goldmedal
24.	PVC batten/ Angle Holders	• Aristo • Antex • Prakash • Kinjal • Anchor • Goldmedal • Panasonic
25.	Exhaust fans	
A)	250 mm (Plastic Body)(Medium duty)	• Havells • Crompton • Orient • Bajaj • Almonard • Atomberg • Halonix • Panasonic • Goldmodel
B)	300 mm / 230 mm metallic body (Heavy duty)	• Havells • Crompton • Orient • Bajaj • Almonard • Atomberg • Halonix • Panasonic • Goldmodel
26.	Fans	
A)	1200 mm / 1400 mm sweep ceiling fan with BLDC motor	• Orient • Crompton • Havells • Atomberg

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		• Bajaj • Halonix • Panasonic • Goldmodel
B)	400 mm Wall mounted fan	• Khaitan : MERLIN HI SPEED • Almonard • Crompton: Wmhiflo wave (Hi-Speed) • Orient: Snow Fall 16WA01 • Panasonic • Goldmodel
27.	LED Luminaries including Street light fittings (ISI Marked)	• Phillips • Wipro • Bajaj • Havells • K-Lite • Crompton greaves • Goldmedal • Surya • Panasonic • Greatwhite • Orient Electric • Jaquar • Lighting Technologies • BEE-LITE
15.	Network switch	• Allied Tellies • Cisco • Netgear • HP
16.	Rack	• Netrack • WQ • Panduit • Rittal • Emerson • Schneider(APC) • Valrack
17.	Decorative street light pole	• Philips • K Lite • Bajaj • Disano • Twinkle • Utkarsh • BEE-LITE
18.	1.1KV grade aluminium conductor, XLPE insulated armoured UG	• CCI • Havells • KEI

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		- Gloster - Finolex - Universal - Fortuneart - Pawan-Cab - Nicco
19.	Raising mains , Bus Trunking (Sandwich / Air insulated)& Tap-Off boxes	- Schneider - Legrand - C&S - L&T
20.	MV Panels	- CPRI Fabricators with panels cleared by CPRI/ Approved by CPWD ADG authority Telangana. - DEC
21.	Glands / Lugs	- Dowells - Comet - Jaison
22.	GI pipes/MS 'C' class pipes ISI marked	- Tata - Jindal - Zenith - Surya - SAIL - Save max - HVACPPL
23.	High Volume low speed fans	- Kelley - Kale Brayan - EcoAir - Macroair - Big Ass
24	Weather proof boxes	- Obo Betterman - Hensel - Legrand - C & S Electric
25	DWC Pipes	- TeleRex - Dutron - Duraline - CPE - Save max
26	Day light/ Occupancy Sensor	- Legrand - Schneider - Johnson Control - ABB - Lutron - Hager

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		- Wipro - Bajaj - Philips
27	Water Purifier	- Eureka Forbes - Kent - Ion Exchange - LG
28	Electrical Geyser	- Racold - A.O. Smith - Crompton - Bajaj - V-Guard - Panasonic - Goldmodel
29	Emergency lightning system, components and Fixtures	- Hochiki - Cooper - Tecknoware - ASM - TM
30	Lighting Control System	- ABB - Schneider - Siemens - Philips
31	Starter	LEGRAND / L&T / SEIMENS/ C&S Electric/ ABB
32	Long Octogonal Pole of all lengths	Laasma / BAJAJ / Utkarsh / Valmount / Crompton/ K-lite/ VAKRANGEE
33	Openwell submersible pumpset	TEXMO / KSB / KIRLOSKAR/ Crompton
34	Flat Submersible cable	- Havells / KEI / Gloster / Finolex/ RR Kabel / L&T - Goldmodel
35	Gate / Non return valves	- AKG - Zoloto - Leader - Kirloskar - Deepak - L&T Valves Limited - Kartar - Crompton
36	Starter	LEGRAND / L&T / SEIMENS / Eaton / BCH / ABB/ C&S Electric
37	20 mtr. Long High mast Pole	BAJAJ / Utkarsh / Valmount / Crompton/ K-lite/ Hukke/ Progressive

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		Lighting
38	All other items not covered above	As per approval of the Engineer-in-charge.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

UPS System

Sr. No.	Product	Make
1	UPS SYSTEM (Minimum Level-3 Inverter topology only to be used for more than 20 KVA) For other rating, UE/PEP certification is essential	• NUMERIC • SCHNEIDER • ABB • LEGRAND • TECHSER • POM POWER • POWER ONE • FUJI ELECTRIC
2	SMF BATTERIES	• AMARA RAJA • ROCKET(MADE IN MALAYSIA/ VIETNAM) • EXIDE • PANASONIC • AMCO • HBL
3	Wires (PVC Insulated copper conductor cable FRLS - ISI marked)/ Telephone cables / Submersable cables/ Co- axial /TV cables	• HAVELLS • ANCHOR • FINOLEX • KEI • L&T • RR KABEL • NAKODA • GOLDMEDAL • PAWAN-CAB • SUDHAKAR • South king • Gloster • Orbit • PANASONIC • Bonton • BCH • OLLVIN • BATRA HENLAY • OCI •
4	All other items not covered above	As per approval of the Engineer-in-charge.

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Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

(SUBSTATION EQUIPMENT)

Sr. No.	Product	Makes
1	Transformers	• Siemens • ABB • Areva • Voltamp • Kirloskar • Essennar • Schneider • Crompton Greaves • Unimag Power Transformer • Hammond • Powerstar • Thota • Fuji Electric
2	HT Panels	• ABB • Siemens • L & T • Schneider • System control • Kirloskar • C&S Electric • DEC
3	MV/ LT Panels	• CPRI Fabricators with panels cleared by CPRI
4	Air Circuit Breakers	• L&T • Siemens • Schneider • Legrand

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		• C&S Electric • Kirloskar
5	Moulded Case Circuit Breakers	• Legrand (DPX3) • L&T (D-sine) • Siemens • C&S Electric • ABB
6	MCBS	• Legrand • Hager • L&T • ABB • Schneider Electric • Siemens • C&S Electric • BCH • Greatwhite
7	Selector Switches	• Kaycee BCH • L&T Salzer • Siemens • HPL • C&S Electric • DEC
8	Contactors	• Siemens • C&S Electric • L&T • Schneider • ABB

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

9	CT/PT	• AE • L&T • Gilbert • Kappa • Schneider
10	Panel Meters DIGITAL including Multi Function meter	• Conzerv • L&T • AE • MECO • Rishab • Prok Devices
11	Glands / Lugs	• Dowells • Comet • Jainson/CM/Braco/Jainson
12	Indication Lamps (LED type), Push Buttons	• Siemens • BCH • L&T • Telemecanique • Vaishnav • Emco • Kaypee • C&S Electric • Surya • Panasonic • Greatwhite • Orient Electric • BEE-LITE
13	Connectors/ Terminal Blocks	• Elmex • Connectwell

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		• Essen • Jainsons/Dowells
14	AB Switch (Air break switch)	• ABI • Jaysree • Hemraj Udyog • Power grid Switchgears
15	1.1KV/ 11 kV grade aluminium conductor. XLPE insulated armoured UG	• Havells • KEI • Gloster • Finolex • Universal • Fortuneart • Pawan-cab
16	GI pipes	• Tata • Jindal Hissar • SAIL • Surya • DEC • Save max
17	M.V. Power Capacitors	• Schneider • L & T • Siemens • Neptune Model LLM • Epcos • Eaton
18	Change over Switches	• ABB • L & T • Schneider • Socomec • C&S Electric
19	11 KV Lightning Arrestor	• OBLUM • IGEC

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		• SEW • ELPRO
20	APFC Relay	• L&T • Beluk • Siemens • Epcos • ABB • Schneider • Neptune
21	Angle iron /Channel Iron	• SAIL • TATA • HSL • Jindal(Hissar) • Zenith
22	11 KV AB Switch (Air Break Switch)	• SAHAL • PACTIL • GEC • SEW • As approved by local Electricity Board
23	11 KV Horn Gap Arrestor	• SAHAL • PACTIL • GEC • SEW • As approved by local Electricity Board
24	11 KV Pin & Disc Insulators	• BHEL • Bharat Industries • As approved by local Electricity Board

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

25	HT Jointing kit / End termination joint	• 3M • Tropolin • Densons • Raychem • M-Seal • CCI-Xicon • Mahindra • <i>Jainson</i>
26	Power Relays	• SEGC • Crompton • Siemens • ABB • Schneider • L & T • C&S Electric
27	Electric Insulation mat with ISI mark	• Dozz • Padmini • Raychem • Jyothi Rubber Udyog
27	DWC Pipes	• TeleRex • Dutron • Veekay Plast • Duroline • CPE/Austral/prince • Save max
28	OFC	• Belden • Delton • Panduit • Legrand • HFCL • Havells • Honeywell
29	SCADA License Software (HMI) for Server & Work Stations	• Siemens • ABB / Hitachi • Schneider Electric • Johnson Controls • Delta control • Beckhoff (Nagara)

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

30	All other items not covered above	As per approval of the Engineer-in-charge.
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Note:

The Chief Engineer, Hyderabad reserves the right to add or delete any materials and makes/ brands in the list of preferred makes of materials/ brands.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

4.Fire Hydrant and Down Comer System

Sr. No.	Product	Make
1.	GI / MS 'C' class pipes duly ISI marked	• Jindal (Hissar) • TATA • ZENITH • SAIL/ISI marked • Armor Fire • Save max
2.	Single/Double Headed GM Landing Valve	• NewAge(Mumbai) • Safex • Padmini • Ceasefire • GETECH • Life guard • Armor Fire • Save max • Mitras
3.	Sluice Valve (ISI marked only)	• Zoloto • Leader • Kirloskar • Deepak • L&T Valves Limited • Armor Fire • Save max
4.	CI NRV / Sluice/ Butterfly valves (ISI marked only)	• Zoloto • Leader • Kirloskar • Deepak • L&T Valves Limited • KSB • Armor Fire • Save max
5.	GM gate valves (ISI marked only)	• Zoloto • Leader • Kirloskar • Deepak • L&T Valves Limited • Armor Fire • Save max
6.	Branch pipe	• Safex • Padmini • GeTech • Agni • Newage

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		• Ceasefire • Armor Fire • Save max
7.	First Aid Hose Reel/ Fire Hose/ Gunmetal Branch pipe/ Fireman Axe	• Safex • Padmini • GeTech • Agni • Newage • Ceasefire • Life Guard • Kesaraplast • Armor Fire • Save max • Mitras
8.	Hydrant valve	• Newage • Ceasefire • Safex • Kalpana • L&T Valves Limited • LifeGuard • Armor Fire • Save max • Mitras
9.	Pressure Gauge	• H Guru • Fiebig • Armor Fire • Save max
10.	Pipe anti corrosive protection (Pipe coating material)	• IWL • Taxa • Mac-polycoat • Armor Fire • Save max
11.	Main Fire / Terrace/ Sprinkler/ Jockey/ Priming Pump sets	• Grundfos • Kirloskar • Mather & Platt India Limited • KSB • Armstrong • Armor Fire • Save max
12.	Air release valve	• Giacomini • AIP valve • Jaison Industries • Zoloto • RBM

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		• Armor Fire • Save max
13.	Motors	• Siemens • Kirloskar • ABB • ITT • Armor Fire • Save max • BCH
14.	LT Switchgear	• Legrand • Schneider Electric • Hager • L&T • ABB • SIEMENS • C&S Electric • Armor Fire • Save max
15.	Starter	• Crompton • L&T • Siemens • Eaton • BCH • ABB • C&S Electric • Eaton • Armor Fire • Save max
16.	Ammeter/ Voltmeter	• IMP • AE • MECO • L&T • C&S Electric • Armor Fire • Save max
17.	Batteries	• Panasonic • Exide • Amaron • HBL • Armor Fire • Save max
18.	Fire Extinguishers	• Safex • MiniMax • Padmini

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		• Cease Fire. • Agni • Armor Fire • Save max • Flamklog • Kalpex • Mitras
19.	1.1KV grade aluminium conductor, XLPE insulated armoured UG Cables	• Havells • KEI • Gloster • Finolex • Universal • Nakoda • CCI • Fortunarrrt • Sudhakar • RR Cable • Nakoda • Universal • Pawan –cab • South king • Armor Fire • Gloster • Orbit • Panasonic • Save max • Bonton • BCH • Ollivin • BATRA HENLAY • OCI •
20.	LV Cable Glands/ lugs	• Dowells • Jainsons • Braco • Comet • Armor Fire • Save max • ollivin
21	Flow Meters	• H.Guru • Pricol • MECO • Victaulic • Armor Fire • Save max

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
22	2-Way/ 4-Way FBC(Fire Brigade Connection)	• Padmini • GeTech • Newage • Agni • Ceasefire • Armor Fire • Save max
23	Sprinklers, UL Listed	• Tyco • HD • Newage • Safex • Armor Fire • Save max
24	LED type sign boards/ Auto glow sign boards.	• Prolite • Insta mark • Acculite • Armor Fire • Surya • Panasonic • Save max • Greatwhite • Orient Electric
25.	All other items not covered above	As per approval of the Engineer-in-charge.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

(Fire Alarm System)

Sr. No.	Product	Make
1	Wires (PVC Insulated copper conductor cable FRLS – ISI marked)/ Telephone cables / Submersable cables/ Co- axial /TV cables	• Havells • Anchor • Finolex • KEI • L&T • RR Kabel • Greatwhite • Ollivin • Notofire • BATRA HENLAY • OCI •
2	Steel Conduit (ISI marked only)	• BEC • Bharat • Gupta • AKG • Precision
3	Loop Control Panel / Repeater panel	• Bosch • Siemens • Notifier • Edwards • Ravel • Notofire
4	Multi Senser Detectors	• Bosch • Siemens • Notifier • Edwards • Notofire
5	Addressable Call Point	• Bosch • Siemens • Notifier • Edwards
6	Response Indicators	• Bosch • Siemens • Notifier • Edwards • Notofire
7	Horn cum Strobe	• Bosch • Siemens • Notifier • Edwards

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		• Ravel • Notofire
8	Fire Control Modules	• Bosch • Siemens • Notifier • Edwards • Ravel • Notofire
Sr. No.	Product	Make
9	SMF Battery	• Panasonic • Exide • Amaron • HBL
10	LAN cable (Structured Cabling)	• Panduit • Belden • Schneider • Systimax(COMMSCOPE) • Molex • Legrand • Extreme • Derwiser • Ollivin
11	CO2 Fire Extinguisher / ABC Fire Extinguisher	• Safex • Cease fire • Agni • Padmini • Minimax • Flameklog

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

12	PA System	• As per OEM of Fire Control Module
13	Manual Call Point	• Bosch • Siemens • Honeywell • Edwards • Ravel • Notofire
	All other items not covered above	As per approval of the Engineer-in-charge.

Note: The Chief Engineer, Hyderabad reserves the right to add or delete any materials and makes/ brands in the list of preferred makes of materials/ brands.

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Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

CCTV System

S. No	Item Description	Makes
	CCTV SYSTEM	
1	Dome, Bullet Cameras CCTV Camera (UL Listed)	• Honeywell Enterprise • Bosch • Pelco • Sony • Siemens • Axis • Tyco • Matrix • Prama
2	Network Video Recorder	• Honeywell Enterprise • Bosch • Pelco • Sony • Siemens • Axis • Tyco • Prama
3	Display Monitor	• Samsung • Sony • LG • Dell • HP
4	Network Switches	• Cisco • Allied Tellies • HP • Netgear • Juniper • DEC
5	Wires (PVC Insulated copper conductor cable FRLS-ISI marked) / Telephone cables / Submersible cables / Co-axial / TV cables	• Havells • Anchor • Finolex • KEI • L&T • RR Kabel • Nakoda • Goldmedal • PAwan-Cab • Sudhakar • South king • Gloster • Orbit • Panasonic • Bonton

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

S. No	Item Description	Makes
		• BCH • Greatwhite • BATRA HENLAY • OCI • ollivin
6	LAN cable (Structured Cabling) / Patch cable	• Panduit • Belden • Schneider • Systimax (COMMScope) • Molex • Legrand • Derwiser • ollivin
7	Network/Server Racks	• Netrack • WQ • Paduit • Rittal • Emerson • Valrack • Schneider(APC) • Derwiser
8	GI pipes	• Tata • Jindal • Zenith • Savemax • Sail
9	OFC	• Finolex • Belden • Delton • Panduit • Avaya • Legrand • HFCL • Havells • Derwiser • Honeywell
10	Patch panels	• Molex • Panduit • L-Com • Derwiser • CISCO
11	Hard Disk Drive HDD	• Seagate • Sandisk • WD • Toshiba • HP

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

S. No	Item Description	Makes
12	POE switch	• Cisco • Allied Telles • HP • Aruba • Netgear • Juniper • EXTREME • Impulse • Prama
11	All other items not covered above	• As per approval of the Engineer-in-charge.

7 LAN System

S. No	Description of Items	Makes
1	Cat 6 A LAN cable (Structured Cabling)	• Panduit • Belden • Schneider • Systimax(COMMSCOPE) • Molex • Legrand • D-Link • CISCO • KEI • Ollivin • Panasonic • Nakoda • Notofire
2	Rack (Network/ Server)	• Netrack • WQ • Panduit • Rittal • Emerson • Schneider(APC) • Valrack
3	Telephone Instruments	• Matrix • Siemens • Alkatel • NEC • Avaya
4	Patch cable /CAT -6 patch cords and CAT 6 A cable	• Panduit • Belden • Schneider • Systimax(COMMSCOPE) • Molex • Legrand • Nakoda • Ollivin

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

5	Wires (PVC Insulated copper conductor cable FRLS - ISI marked)/ Telephone cables / Submersable cables/ Co- axial /TV cables	• HAVELLS • ANCHOR • FINOLEX • KEI • L&T • RR KABEL • GOLDMEDAL • PAWAN-CAB • SUDHAKAR • South king • Gloster • Orbit • PANASONIC • Bonton • BCH • Greatwhite • OLLIVIN • BATRA HENLAY • OCI •
	All other items not covered above	As per approval of the Engineer-in-charge.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

EPABX System & Digital Lock doors

S. No	Description of Items	Makes
1	IP Based EPABX System	• Matrix • Panasonic • NEC • CISCO • Alcatel • Ericsson • Siemens
2	Analog/ Digital IP Based Phones	• Siemens • Avaya • Cisco • Polycom • Alcatel • Siemens • Ericsson • Matrix
3	Telephone Jack	• Belden • Systimax • Panduit • Siemon • Matrix
4	Managed Network Switches	• Cisco • Allied Tellies • HP • Netgear • DEC
5	Cat 6 A LAN cable (Structured Cabling)	• Panduit • Belden • Schneider • Systimax(COMMSCOPE) • Molex • Legrand • Ollivin • Nakoda • Notofire
6	Rack (Network/ Server)	• Netrack • WQ • Panduit • Rittal • Emerson • Schneider(APC) • Valrack
7	Telephone Instruments	• Matrix • Siemens • Alkatel • NEC • Avaya

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

8	Patch cable / CAT -6 patch cords and CAT 6 A cable	• Panduit • Belden • Schneider • Systimax(COMMSCOPE) • Molex • Legrand • Ollivin • Nakoda
8	All other items not covered above	As per approval of the Engineer-in-charge.
9	Wireless Access Point	• Cisco • Allied Tellies • HP • Aruba • Netgear

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

50 KWP Solar Plant**MATERIAL AND EQUIPMENT - PREFERRED MAKES**

All materials and equipment shall conform to the relevant standards and shall be one of the preferred makes indicated below

S.No	Component	Preferred make
1.	Manufactures of Solar PV Cells and Modules	Approved as per prevailing OM/ Almm list of MNRE Approved by Engineer in charge as per tender specifications.
2.	Power Conditioning Unit/ Grid Tied Inverter	SMA (America) Kaco Delta Siemens ABB – Fimer Emerson Techser Havells Luminous Hitachi Power One
3.	Accessories/Connecters	MC Tyco Solarlok • HVACPPL
4.	Data logger/System performance	ABB KACO Energy Recommence Energy Tracking IIc SMA America Schlumberger
5.	Indicating Lamps LED type and Push Buttons	Schneider L&T Siemens Vaishno C&S Electric Surya Panasonic • Greatwhite • Orient Electric • Lighting Technologies

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

6.	Digital Meters	Conzerv L&T AE MECO C&S Electric
7.	LT Jointing Kit / Termination	Raychem Mahindra M – Seal 3M
8.	Cable Glands Double compression with earthing links	COMET DOWELLS JAINSONS
9.	Bimetallic/Copper/Aluminium Cable Lug	Comet Dowell's Jainsons
10.	MCB DBs/ MCB.s / MCCBs	Siemens Legrand Schneider Hager ABB L & T BCH • Greatwhite
11.	UTP Data Cable	Legrand Systimax Commscope Ollivin R&M
12.	GI pipes	SAIL Jindal-Hissar TATA Zenith ISI marked Save max
13.	Phenolic laminated sheet	Hylam Greenlam
14.	GI Race way	OBO Legrand MK Schneider Electric Profab
15.	Surge Protection Device	Schneider Electric OBO L&T Legrand

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

16.	XLPE aluminum / copper conductor cables	Universal Finolex CCI Gloster Havells KEI RR KABEL Polycab Pawan-Cab Sudhakar South king • Gloster • Orbit Panasonic Bonton BCH Ollivin Notofire
17.	Solar Cables(XLPO)	SICHEM Havells KEI Finolex Polycab Pawan-Cab Sudhakar South king • Gloster • Orbit ollivin

Note:-

1. The Mentioning of particular make under preferred makes does not fulfill automatically for acceptance. The make shall comply all the particulars specifications, item of work and other conditions of the contract.
2. Either the model shall be got approved or sample shall be submitted for approval by Engineer-in-Charge before confirming any order to supplier by the contractor.
3. For any item not covered in the above list, the contractor shall submit the makes and sample seeking approval from the Engineer-in-Charge before supply of the materials.
4. In case of Solar PV Panels, it shall satisfy the performance and warranty conditions stipulated in the agreement. Necessary undertaking/ Certificate from the OEM shall be obtained and submitted to the Engineer-in-Charge before making any payments. Willingness/ conformity of specifications and performance from the OEM shall be submitted along with the proposal for product approval.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

5. Some times client can also choose the makes of material at their requirement and experience same shall be abide by the agency.

Note: For items for which makes of materials are not specified, the same shall be decided by the Engineer – in – charge/ and the decision taken by the Engineer – in – charge in specific case shall be final or as chosen by client department and binding on the contractor.

Note: The Chief Engineer, Hyderabad reserves the right to add or delete any materials and makes/ brands in the list of preferred makes of materials/ brands.

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Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

LIFT

Sr. No.	Product	Make
1.	Lift	• OTIS • SCHINDLER • MITSUBISHI • KONE • JOHNSON
2.	GI pipes	• Tata • Jindal • Zenith • Surya • SAIL
3.	All other items not covered above	• As per approval of the Engineer-in-charge.

1. The Lift Manufacturer shall comply with BIS Standards, duly certified by designated labs / certifying agencies.
2. The Manufacturer shall be PPP MII order-2017 (as amended) compliant.
3. The experience of successful completion of similar works shall be as per CPWD Works Manual/SoP.
4. The Manufacturer shall furnish an undertaking regarding availability of spares for the entire life of lift i.e., 15 to 20 years.
5. The complete Lift installation including its components, safety devices, various types of controls etc., testing, inspection, operation & maintenance shall confirm to relevant codes/ Standards / Codes of Practices/Guidelines/ Safety rules/Inspection manual(s)/Rules issued by Bureau of Indian Standards, as amended up to date.
6. Quality standards shall confirm to IS/ISO-9001:2015 as amended.
7. The downtime of installed lifts, which are being maintained by the Manufacturer, shall not be more than 8 hours(average) in case of minor faults and 7 days(average) in case of major repairs in last one year. The data to be considered shall be for last financial year.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

VIDEO CONFERENCE/AUDIO VIDEO SYSTEM

Sr. No.	Product	Makes
1	FOH Speakers	• Bose • Martin Audio • JBL: Control 14 C/T • ElectroVoice • Renkus Heinz • Bosch • Sony • or equivalent
2	Sub Woofer	• Bose • Martin Audio • JBL: ASB6115 • ElectroVoice • Renkus Heinz • Bosch • Sony • or equivalent
3	SPL Fill Loud Speakers	• Bose • Martin Audio • JBL: control 14/c • ElectroVoice • Renkus Heinz • Bosch • Sony • or equivalent
4	Floor monitor Speakers	• Bose • Martin Audio • JBL • ElectroVoice • Renkus Heinz • Bosch • Sony
5	Networkable Power Amplifier	• Bose • Powersoft • Lab Gruppen • Ashly Audio
6	Digital Signal Processor	• Bose • Biamp • Ashly Audio
7	Audio Mixer	• Yamaha • Soundcraft • Studio Master: Air 12U • or equivalent
8	Wireless Hand Held Microphone	• AKG :WMS 420 Vocal Set • Audio-Technica

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		• Electro Voice • Sennheiser • Shure • JBL • or equivalent
9	Wireless Lapel microphone with receiver	• AKG: WMS 470 • Audio-Technica • Electro Voice • Sennheiser • JBL • Shure • or equivalent
10	Wired Cardioid hand held Microphone	• AKG • Audio-Technica • Electro Voice • Sennheiser • Shure • JBL
11	Cardioid Instrument microphone	• AKG • Audio-Technica • Electro Voice • Sennheiser • Shure • JBL
12	Gooseneck Microphone	• AKG: CGN521STS • Audio-Technica • Electro Voice • Sennheiser • Shure • JBL • or equivalent
13	Smart Metallic Podium	• EAPL • ELCO • Liberty
14	Wireless Presentation System	• Crestron • Barco: CX-30 • Extron • Cramer • AMX • or equivalent

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

15	Microphone Cables	• Beldon • Sommer • Klotz • Pawan-Cab • Sudhakar • South king • Gloster • Orbit • Panasonic - Bonton • BCH • ollivin
16	Loud Speaker cable	• Beldon • Sommer • Klotz • ollivin
17	Quad Core IP Control System	• Aurora • Crestron • Extron
18	Streaming Transciever	• Aurora • Crestron • Extron
19	Streaming Transciever wall plate	• Aurora • Crestron • Extron
20	POE Switch	• Cisco : CBS350-24P • Allied Tellies • HP • Aruba • Netgear • or equivalent • Prama
21	Wireless Access Point	• Cisco • Allied Tellies • HP • Aruba • Netgear
22	DLP Laser Projector	• Barco • Christie • Panasonic • Sony • NEC
23	Projector Screen	• Liberty • Logic • Dalite • Chief • Draper • Visio Teck

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		• Focus
24	LAN Cable	• Panduit • Nakoda • Belden • Schneider • Systimax(COMMSCOPE) • Molex • Beldon • Legrand • Extreme • ollivin
25	Rack	• Netrack • WQ • Panduit • Rittal • Emerson • Schneider(APC) • Valrack
26	Wireless Access Point	• Cisco • Allied Tellies • HP • Aruba • Netgear
27	Display Monitor	• Samsung • Sony • LG • Dell • HP
28	PTZ CCTV Camera (UL Listed)	• Honeywell • Bosch • Pelco • Sony • Tyco • Siemens • Axis • Matrix • Prama
29	All other items not covered above	As per approval of the Engineer-in-charge.

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CPWD, Hyderabad.**

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

HVAC LIST OF PREFERRED MAKES		
Sr. No.	Product	Make
1.	Chiller Unit (AHRI Certified Only)	• Trane • Blue Star • Mitsubishi (Climaveneta) • York • Daikin • Denhum bush • Mc Quarry • Kirloskar • GP SPIRA
2.	Motor	• Siemens • ABB • Kirloskar • ITT • Mather & Platt • Danton • GP SPIRA
3.	Secondary Chilled Water Pumpsets with VFD and control panel	• Xylem • Armstrong • Groundfos • Kirloskar • ITT • GP SPIRA
4.	Chilled water pipeline-MS, C- Class	• TATA • SAIL • Jindal(Hissar) • Prakash • Zenith • GP SPIRA
5.	Process cooling water pipe, SS-304	• Swagelok • Valex • Sandvik • GP SPIRA
6.	Air Handling Units/ Cooling coils/ FCU/ Air washer/ Wet scrubber/ Cabinet type exhaust airfans. (Note: All equipments shall be Eurovent certified, AHRI certified coils and AMCA certified fans.)	• System Air • Zeco Aircon • Edge Tech • Flaktwood • VTS Ventus • GP SPIRA • Citizen
7.	Centrifugal Fans in AHU/ Ventilation fans/ Smoke exhaust fans/ Pressurization Fans(AMCA certified)	• Nicotra • Kruger • Flaktwoods

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

HVAC LIST OF PREFERRED MAKES		
Sr. No.	Product	Make
		• Green Huck • GP SPIRA
8.	Auto airvent with stop valve	• Rapidcool • Anergy • Honeywell • Johnson controls • Emerald • GP SPIRA
9.	Heat Recovery Exchanger/ Ventilator/ Wheel	• Ostberg • DRI • Flaktwoods • GP SPIRA
10.	Grill/ Diffuser/Fire Damper/Motorized Fire Damper/ VCD/ VAV Boxes	• Systemair • Caryair • Airmaster • Ruskin-Titus • Airflow • Tristar • GP SPIRA
11.	Damper Actuator	• Honeywell • Siemens • Johnson controls • Belimo • GP SPIRA
12.	HEPA Filters, Pre Filters and Fine Filters	• Camfil • Freudenberg • Thermodyne • Anergy • Mc Mark • GP SPIRA
13.	Modulating Motors	• Danfoss • Honeywell • Johnson Control • Belimo • GP SPIRA
14.	Fresh/ Exhaust Air Louvers	• Systemair • Caryair • Airmaster • Ruskin-TITUS • Airflow • Tristar • GP SPIRA

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

HVAC <u>LIST OF PREFERRED MAKES</u>		
Sr. No.	Product	Make
15.	Ducting Sheet	• Zeco • Rolastar • Ductofab • Voltas • Alphaduct • Shree Venus • GP SPIRA
16.	Ducting GI Sheet	• SAIL • Jindal • TATA • Shree Venus • GP SPIRA
17.	Insulation including PUF/Fibre Glass/ Rockwool/ Phenolic Foam/ Nitrile Rubber	• UP Twiga • K-flex • Lloyd Insulation • Supreme Industries • Owens Corning • Armaflex • Paramount • Kinco • GP SPIRA • Mitras
18.	Thermometer/ Temperature Gauge/ Pressure Gauge/ Flow switch/ Pressure switch/ Actuator/ Room thermostat/ Humid Stat/ Water Flow Meter/ Hardness Analyzer/ PH, Chlorine, TDS, CO, CO2 etc. sensors	• Honeywell • Schneider Electric • Siemens • Johnson Controls • Kele • Veksler • L&T • Danfoss • Trane • H- Guru • Fiebig • GP SPIRA
19.	Variable Frequency Drive	• Allen Bradley • Danfoss • ABB • Honeywell • Siemens • L&T • GP SPIRA
20.	Motor Protected Circuit Breaker	• Schneider • L&T • ABB

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

HVAC <u>LIST OF PREFERRED MAKES</u>			
Sr. No.	Product	Make	
		•	Siemens
		•	GP SPIRA
21.	Balancing Valves/ Flow measuring devices	•	Tour & Anderson
		•	Bell & Gossett
		•	Advance
		•	C & R
		•	Castle
		•	Intervalve
		•	Anergy
		•	GP SPIRA
22.	Butterfly Valves	•	Advance
		•	C&R
		•	Audco
		•	Arrow
		•	Intervalve
		•	Alpha lavel
		•	GP SPIRA
23.	Gate / Globe valves with ISI mark	•	Sant
		•	Leader
		•	Kirloskar
		•	Emerald
		•	Zoloto
		•	GP SPIRA
24.	Pot & Y- Strainer	•	Leader
		•	Kirloskar
		•	CV & R
		•	Emerald
		•	Sant
25.	Ball Valves	•	Audco
		•	Rapid cool
		•	Emerald
		•	TBS
26.	Pressure gauges	•	Forbes marshall
		•	Wika
		•	Audco
		•	Arrow
		•	Dwyer
		•	Taylor
27.	Pressurisation unit	•	Armstrong
		•	Bell & Gossett
		•	Anergy
28.	Resin bonded glass wool	•	UP Twiga
		•	Kimmco

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

HVAC <u>LIST OF PREFERRED MAKES</u>		
Sr. No.	Product	Make
		Lloyd Insulation
29.	Safety Thermostat for Chillers	- Sauter - Honeywell - Johnson controls - Siemens - Kirloskar
30.	Flow switch	- Sauter - Honeywell - Johnson controls - Siemens
31.	Auto air vent valve	- Amtrol - Flamco - Energy Instrument
32.	Temperature Sensors, Humidity Sensors	- Danfoss - Honeywell - Johnson - Siemens - Bell controls
33.	Air filters	- Airtech - Puromatic - Purafill - ARW - Athelete - Anfilco - Thermodyne - Spectrum
34.	All other items not covered above	As per approval of the Engineer-in-charge.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

VRV/VRF

Sr. No.	Product	Make
1.	VRV/VRF Indoor and Outdoor AC units	• O General • Mitsubishi • Carrier(Thoshiba) • Hitachi • Daikin • Blue Star • LG • Voltas
2.	Refrigerant pipes	• Godrej • Mehta • Mandev • Rajco • Nippon • Totaline • As per manufacturer's standards • Panasonic • RR Shramik
3.	UPVC Drain Pipes	• Sudhakar • Aashirwad • Astral • Supreme • Press Fit • Panasonic • RR Shramik
4.	PVC Insulated copper conductor cable (For control and communications)	• Havells • Anchor • Finolex • KEI • L&T • Asmon • RR Kabel • RR Shramik • ollivin
5.	Centre Remote Controller	• Same make as that of Central/VRF/VRV A.C.Unit
6.	Wires (FRLS PVC Insulated copper conductor cable FRLS - ISI marked)	• Havells • Anchor • Finolex • KEI • L&T • Asmon • RR Kabel • Greatwhite

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
		• Ollivin • BATRA HENLAY • OCI •
7.	PVC Conduits and accessories (ISI marked)	• Avon Plast • Precision • AKG • BEC • GM • Clipsal • HVACPPL •
8.	MCB DBs/ MCCB DBs/MCBs/RCCBs/ Industrial Socket outlets	• Legrand • Schneider Electric • Hager • L&T • ABB • Siemens • C&S Electric • Greatwhite
9.	G.I Pipes	• Jindal (Hissar) • TATA • Zenith • Surya • Panasonic
10.	1.1KV grade aluminium conductor, XLPE insulated armoured UG Cables	• CCI • Havells • KEI • Gloster • Finolex • NICCO • Universal • Finecab • Ollivin • Notofire •
11.	Cable Glands	• Dowells • Jainsons • Braco • Comet • Ollivin •
12.	All other items not covered	As per approval of the Engineer-in-charge.

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

Sr. No.	Product	Make
	above	

Note: 1. 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 make brands out of the above list. Also the firm shall produce proof of purchase of materials for payment.

Components with country of origin of China are not acceptable.

2. All products approved by Chief Engineer, Hyderabad and ADG, Hyderabad as on date shall be considered in approved make.

// Contractor //

Executive Engineer (E)-II-HYD,

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

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% 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.

Executive Engineer (E)-Hyd-I
CPWD, Hyderabad

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

BLANK

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

SCHEDULE OF QUANTITIES-CIVIL						
Name of work: Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.						
Item No.	DSR Ref.	Description	Quantity	Unit	Rate	Amount
1	2	EARTH WORK				
1.1	2.8	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.				
1.1.1	2.8.1	All kinds of soil	166	cum	260.30	43,210
1.2	2.1	Excavating trenches of required width for pipes, cables, etc. including excavation for sockets, and dressing of sides, by mechanical / manual means 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 :				
1.2.1	2.10.1	All kinds of soil				
1.2.1.1	2.10.1.1	Pipes, cables etc, not exceeding 80 mm dia.	50	metre	215.60	10,780
1.2.1.2	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	82	metre	352.15	28,876
1.3	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and for all lift.	166	cum	196.00	32,536
1.4	2.25A	Excavating, supplying, stacking and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in foundation trenches, plinth, sides of foundation etc. complete for all lift.	100	cum	700.50	70,050

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

1.5	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	2	cum	2123.75	4,248
1.6	2.28	Surface dressing of the ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m.				
1.6.1	2.28.1	All kinds of soil	50	sqm	34.15	1,708
2	4	CONCRETE WORK				
2.1	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:				
2.1.1	4.1.3	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).	10	cum	7878.50	78,785
2.1.2	4.1.10	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).	75	cum	6518.60	4,88,895
2.2	4.2	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing :				
2.2.1	4.2.3	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).	4	cum	9895.20	39,581
2.3	4.5	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, etc., including hoisting and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand), cost of required Centering complete.				

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

2.3.1	4.5.1	1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20mm nominal size derived from natural sources).	3	cum	10105.10	30,315
2.4	4.17	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm 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.	85	sqm	749.30	63,691
3	5	REINFORCED CEMENT CONCRETE				
3.1	5.3	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).	9	cum	11505.50	1,03,550
3.2	5.9	Centering and shuttering including strutting, propping etc. and removal of form for:				
3.2.1	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete	33	sqm	392.15	12,941
3.2.2	5.9.3	Suspended floors, roofs, landings, balconies and access platform	30	sqm	927.25	27,818
3.2.3	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers	66	sqm	736.40	48,602
3.3	5.22A	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
3.3.1	5.22A.6	Thermo-Mechanically Treated bars of grade Fe-500 D or more.	1350	kilogram	107.85	1,45,598

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

4	6	MASONRY WORK				
4.1	6.1N	Brick work with non modular Fly ash cement bricks of class designation 7.5 in foundation and plinth in :				
4.1.1	6.1N.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	26	cum	7213.20	1,87,543
4.2	6.34	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 :				
4.2.1	6.34.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	68	cum	8962.35	6,09,440
4.3	6.45	Half brick masonry with non modular fly ash bricks of class designation 10, conforming to IS : 12894, in super structure above plinth and upto floor V level.				
4.3.1	6.45.2	Cement mortar 1 : 4 (1 cement : 4 coarse sand)	119	sqm	1105.80	1,31,590
5	7	STONE WORK				
5.1	7.1	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level with :				
5.1.1	7.1.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	61	cum	7311.25	4,45,986
6	8	CLADDING WORK				
6.1	8.2	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 to edges to give high gloss finish etc. complete at all levels.				
6.1.1	8.2.3	Granite stone slab all colour and texture except black, Cherry/Ruby red				

Cor	NIL	Ins	NIL
Omi	NIL	Ovw	NIL
AE(C)	AE(E)	EE(C)	

6.1.1.1	8.2.3.1	Area of slab upto 0.50 sqm	12	sqm	4170.65	50,048
6.1.1.2	8.2.3.2	Area of slab over 0.50 sqm	18	sqm	3848.70	69,277
6.2	8.3	Providing edge moulding to 18 mm thick marble stone counters, vanities etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.				
6.2.1	8.3.2	Granite work	103	metre	510.95	52,628
6.3	8.10	Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-Charge and finished smooth.				
6.3.1	8.10.2	Granite Stone of approved shade	3	sqm	4051.90	12,156
6.4	8.31	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 @ 3.3 kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	316	sqm	1267.95	4,00,672
7	9	WOOD AND PVC WORK				
7.1	9.1	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).				
7.1.1	9.1.1	Second class teak wood	1	cum	142949.70	1,42,950

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

7.2	9.5	Providing and fixing panelled or panelled and glazed shutters for doors, windows and clerestory windows fixing with butt hinges of required size with necessary screws, excluding panelling which will be paid for separately, all complete as per direction of Engineer-in-charge. (Note:- Butt hinges and necessary screws shall be paid separately)				
7.2.1	9.5.1	Second class teak wood				
7.2.1.1	9.5.1.1	35 mm thick shutters	7	sqm	4111.95	28,784
7.3	9.7	Providing and fixing panelling or panelling and glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Panelling for panelled or panelled and glazed shutters 25 mm to 40 mm thick:				
7.3.1	9.7.1	Second class teak wood	7	sqm	3323.20	23,262
7.4	9.2	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1 st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
7.4.1	9.20.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	26	sqm	3473.85	90,320
7.5	9.48	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.				
7.5.1	9.48.1	Fixed to steel windows by welding	609	kg	219.10	1,33,432
7.6	9.74	Providing and fixing bright finished brass tower bolts (barrel type) with necessary screws etc. complete:				
7.6.1	9.74.2	200x10 mm	26	each	358.40	9,318
7.6.2	9.74.3	150x10 mm	8	each	287.25	2,298
7.7	9.76	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete.	17	each	854.65	14,529

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

7.8	9.81	Providing and fixing bright finished brass handles with screws etc. complete:				
7.8.1	9.81.1	125 mm	26	each	256.65	6,673
7.8.2	9.81.2	100 mm	8	each	234.70	1,878
7.9	9.82	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	13	each	121.65	1,581
7.10	9.84	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	13	each	983.15	12,781
7.11	9.121	Providing and fixing Fiber Glass Reinforced plastic (FRP) Door Frames of cross-section 90 mm x 45 mm having single rebate of 32 mm x 15 mm to receive shutter of 30 mm thickness. The laminate shall be moulded with fire resistant grade unsaturated polyester resin and chopped mat . Door frame laminate shall be 2 mm thick and shall be filled with suitable wooden block in all the three legs. The frame shall be covered with fiber glass from all sides. M.S. stay shall be provided at the bottom to steady the frame.	20	metre	570.95	11,419
7.12	9.122	Providing and fixing to existing door frames.				
7.12.1	9.122.2	30 mm thick Fiberglass Reinforced Plastic (F.R.P.) flush door shutter in different plain and wood finish made with fire retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate all around, with suitable wooden blocks inside at required places for fixing of fittings and polyurethane foam (PUF) / Polystyrene foam to be used as filler material throughout the hollow panel, casted monolithically with testing parameters of F.R.P. laminate conforming to table - 3 of IS: 14856, complete as per direction of Engineer-in-charge.	7	sqm	4488.95	31,423

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

7.13	9.135	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia 0.50 mm all complete.				
7.13.1	9.135.1	With 2nd class teak wood beading 62X19 mm	21	sqm	1597.15	33,540
7.14	9.147	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 Inline 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/				

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

		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				
7.14.1	9.147.A4	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.				
7.14.1.1	9.147.A4.2	Using R3 series with frame (98mm & above) x (40mm & above) & both glazed and fly screen sash (30mm & above) x (55mm & above) with zinc alloy (zamak) powder coated handle on every glazed panel along with multi-point locking system. (Height upto 1.8m).	41	sqm	10874.20	4,45,842
7.14.2	9.147.C1	Fixed window / ventilator without mullion / transom.				
7.14.2.1	9.147.C1.3	Using R3 series with frame (55mm & above) x (45mm & above). (Height upto 2.5 metre)	2	sqm	7080.05	14,160
8	10	STEEL WORK				
8.1	10.16	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.				
8.1.1	10.16.1	Hot finished welded type tubes	2183	kg	194.40	4,24,375
8.2	10.25	Steel work welded in built up sections / framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

8.2.1	10.25.2	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	200	kg	172.60	34,520
8.3	10.28	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, 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.).	350	kg	772.40	2,70,340
9	11	FLOORING				
9.1	11.20	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand).				
9.1.1	11.20.1	Light shade pigment using white cement	27	sqm	1402.00	37,854
9.2	11.37	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), including pointing the joints with white cement and matching pigment etc., complete.	97	sqm	1096.55	1,06,365

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

9.3	11.41A	Providing and laying Vitrified tiles in floor in different 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.				
9.3.1	11.41A.2	Glazed vitrified floor tiles polished finish of size				
9.3.1.1	11.41A.2.3	Size of Tile 800 x 800 mm	256	sqm	1728.80	4,42,573
9.4	11.46	Providing and laying Vitrified tiles in different 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.				
9.4.1	11.46.3	Size of Tile 800x800 mm	16	sqm	1958.45	31,335
9.5	11.48	Grouting the joints of flooring tiles having joints of 3 mm width, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling/ grouting and finishing complete as per direction of Engineer-in-charge.				
9.5.1	11.48.3	Size of Tile 800x800 mm	256	sqm	244.75	62,656

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

9.6	11.56	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.				
9.6.1	11.56.1	Polished Granite stone slab colour of Black, Cherry/Ruby Red or equivalent	10	sqm	4481.30	44,813
10	12	ROOFING				
10.1	12.1	Providing corrugated G.S. sheet roofing including vertical/ curved surface fixed with polymer coated J or L hooks, bolts and nuts 8 mm diameter with bitumen and G.I. limpet washers or with G.I. limpet washers filled with white lead, including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (up to 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.				
10.1.1	12.1.1	1.00 mm thick with zinc coating not less than 275 gm/m ²	487	sqm	1457.15	7,09,632
10.2	12.4	Providing ridges or hips of width 60 cm overall width plain G.S. sheet fixed with polymer coated J or L hooks, bolts and nuts 8 mm dia G.I. limpet and bitumen washers complete.				
10.2.1	12.4.1	0.80 mm thick with zinc coating not less than 275 gm/m ²	43	metre	1083.30	46,582
10.3	12.12	Providing and fixing ridges and hips in fibre cement reinforced by organic fibres and/or inorganic synthetic fibres roofing with suitable fixing accessories or self drilling fastener and EPDM washer etc. complete.				

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

10.3.1	12.12.1	Corrugated serrated adjustable ridges	43	metre	522.95	22,487
10.4	12.38	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. :				
10.4.1	12.38.1	100 mm diameter	18	each	362.85	6,531
10.5	12.41	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.				
10.5.1	12.41.1	75 mm diameter	9	metre	248.80	2,239
10.5.2	12.41.2	110 mm diameter	27	metre	377.40	10,190
11	13	FINISHING				
11.1	13.1	12 mm cement plaster of mix:				
11.1.1	13.1.2	1:6 (1 cement : 6 fine sand)	465	sqm	333.35	1,55,008
11.2	13.2	15 mm cement plaster on the rough side of single or half brick wall of mix:				
11.2.1	13.2.2	1:6 (1 cement : 6 fine sand)	419	sqm	383.00	1,60,477
11.3	13.16	6 mm cement plaster of mix:				
11.3.1	13.16.1	1:3 (1 cement : 3 fine sand)	46	sqm	300.45	13,821
11.4	13.48	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications :				
11.4.1	13.48.1	Two or more coats applied on walls @ 1.25 ltr/10 sqm over and including one coat of special primer applied @ 0.75 ltr /10 sqm	1670	sqm	193.70	3,23,479
11.5	13.56	Painting (two or more coats) on rain water, soil, waste and vent pipes and fittings with synthetic enamel paint of approved brand and manufacture and required colour over a priming coat of approved steel primer on new work.				
11.5.1	13.56.1	100 mm diameter pipes	12	metre	82.00	984

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

11.6	13.62	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:				
11.6.1	13.62.1	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.	355	sqm	226.25	80,319
11.7	13.80	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.	1670	sqm	156.05	2,60,604
11.8	13.91	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.	1158	sqm	25.15	29,124
12	14	REPAIRS TO BUILDINGS				
12.1	14.1	Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 sq meters and under, including cutting the patch in proper shape, raking out joints and preparing and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground within 50 metres lead:				
12.1.1	14.1.1	With cement mortar 1:4 (1 cement : 4 fine sand)	100	sqm	547.40	54,740
13	15	DISMANTLING AND DEMOLISHING				
13.1	15.2	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.				
13.1.1	15.2.1	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	28	cum	2434.25	68,159
13.2	15.3	Demolishing R.C.C. work manually / by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-Charge.	2	cum	3551.25	7,103

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

13.3	15.7	Demolishing brick work manually / by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-Charge.				
13.3.1	15.7.4	In cement mortar	14	cum	2060.20	28,843
13.4	15.12	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead:				
13.4.1	15.12.1	Of area 3 sq. metres and below	51	each	367.20	18,727
13.4.2	15.12.2	Of area beyond 3 sq. metres	2	each	502.75	1,006
13.5	15.28	Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of:				
13.5.1	15.28.2	Asbestos Sheet	487	sqm	77.30	37,645
13.6	15.56	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	100	sqm	54.65	5,465
13.7	15.6	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	103	cum	263.95	27,187
14	16	ROAD WORK				
14.1	16.1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth with lead upto 50 metres.	468	sqm	218.90	1,02,445

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

14.2	16.87	Providing and laying gang saw cut 30 mm thick, mirror polished pre moulded and pre polished machine cut granite stone of required size and shape of approved shade, colour and texture in footpath, flooring in road side plazas and similar locations, laid over 20mm thick base of cement mortar 1:4 (1cement : 4 coarse sand) including grouting the joints with white cement mixed with matching pigment, epoxy touch ups etc. complete as per direction of Engineer-in-Charge.				
14.2.1	16.87.1	With granite stone of area less than 0.50 sqm.	8	sqm	4950.90	39,607
14.3	16.91	Providing and laying factory made chamfered edge Cement Concrete paver blocks In foot path, park & lawns driveway or light & traffic parking etc. of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of coarse sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand, all complete as per manufacturer's specifications & direction of Engineerin-Charge.				
14.3.1	16.91.1	60mm thick Cement concrete paver block of M-35 grade with approved colour, design & pattern.	348	sqm	1045.65	3,63,886

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

15	17	SANITARY INSTALLATIONS				
15.1	17.5	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:				
15.1.1	17.5.3	Range of three half stall urinals with 10 litre PVC. automatic flushing cistern	1	each	22058.25	22,058
15.2	17.7A	Providing and fixing wash basin with C.I. brackets, 15 mm dia CP Brass single hole basin mixer of approved quality and make, including painting of fittings and brackets, cutting and making good the walls wherever required:- (a) White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole basin mixer	5	each	3960.55	19,803
15.3	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including PVC. waste fittings complete.				
15.3.1	17.28.2	Flexible pipe				
15.3.1.1	17.28.2.1	32 mm dia	5	each	119.55	598
15.4	17.29	Providing and fixing 100 mm sand cast Iron grating for gully trap.	12	each	53.25	639
15.5	17.32	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing:				
15.5.1	17.32.4	Rectangular shape 1500x450 mm	2	each	2093.00	4,186
15.6	17.33	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.	2	each	1083.50	2,167
15.7	17.34	Providing and fixing toilet paper holder:				

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

15.7.1	17.34.1	C.P. brass	4	each	803.70	3,215
15.8	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	4	each	18212.90	72,852
16	18	WATER SUPPLY				
16.1	18.7	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including 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				
16.1.1	18.7.1	15 mm nominal outer dia pipes	60	metre	286.80	17,208
16.1.2	18.7.2	20 mm nominal outer dia pipes	48	metre	335.00	16,080
16.1.3	18.7.3	25 mm nominal outer dia pipes	80	metre	401.55	32,124
16.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings i/c 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 wall etc.				
16.2.1	18.8.1	15 mm nominal dia pipes	20	metre	497.80	9,956
16.2.2	18.8.2	20 mm nominal dia pipes	32	metre	537.60	17,203

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

16.2.3	18.8.3	25 mm nominal dia pipes	48	metre	627.25	30,108
16.3	18.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer-in-Charge. External work				
16.3.1	18.9.3	25 mm nominal dia pipes	50	metre	355.40	17,770
16.3.2	18.9.4	32 mm nominal dia pipes	80	metre	438.60	35,088
16.4	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions:				
16.4.1	18.21.2	45 cm length				
16.4.1.1	18.21.2.2	20 mm nominal bore	9	each	119.05	1,071
16.5	18.48	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.	2000	per litre	11.00	22,000
16.6	18.5	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.				
16.6.1	18.50.1	15 mm nominal bore	9	each	820.70	7,386
16.7	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
16.7.1	18.52.1	15 mm nominal bore	12	each	670.45	8,045
17	19	DRAINAGE				
17.1	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
17.1.1	19.4.1	100x100 mm size P type				

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

17.1.1.1	19.4.1.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	6	each	2707.65	16,246
17.2	19.6	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:				
17.2.1	19.6.2	150 mm dia R.C.C. pipe	20	metre	556.45	11,129
17.2.2	19.6.3	250 mm dia R.C.C. pipe	50	metre	899.80	44,990
17.3	19.7	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 :				
17.3.1	19.7.1	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):				
17.3.1.1	19.7.1.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	6	each	12770.55	76,623
17.4	19.19	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality.				
17.4.1	19.19.1	L D - 2.5				
17.4.1.1	19.19.1.1	Rectangular shape 600x450 mm internal dimensions	6	each	1340.90	8,045

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

17.5	19.32	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.				
17.5.1	19.32.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	1	each	26861.90	26,862
18	21	ALUMINIUM WORK				
18.1	21.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
18.1.1	21.1.2	For shutters of doors, windows & ventilators including providing and fixing hinges / pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately).				

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

18.1.1.1	21.1.2.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	250	kg	634.45	1,58,613
18.2	21.3L	Providing and fixing glazing in aluminium / UPVC door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-in-Charge. (Cost of aluminium snap beading shall be paid in basic item):				
18.2.1	21.3L.2	With float glass panes of 5 mm thickness (weight not less than 12.50 kg/ sqm)	63	sqm	1505.25	94,831
18.3	21.8	Filling the gap in between aluminium frame & adjacent RCC / Brick / Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-Charge complete.				
18.3.1	21.8.1	Upto 5 mm depth and 5 mm width	131	metre	96.75	12,674
19	22	WATER PROOFING				
19.1	22.14	Grading roof for water proofing treatment with:				
19.1.1	22.14.1	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	4	cum	8042.30	32,169

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

20	26	NEW TECHNOLOGIES AND MATERIALS				
20.1	26.26	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 0.33mm thick (galvanized @ 120 grams 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 600mm 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.				
20.1.1	26.26.1	With semi perforated 12 mm thick micro tegular edged GRG false ceiling tiles.	344	sqm	1852.05	6,37,105

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

21	NSR	MISCELLANEOUS				
21.1	NSR	Supplying and fixing of Type-B SWR PVC soil and waste pipes jointed with rubber ring with good quality lubricant for vertical stacks in shafts and in sunken floor slabs or under slab with solvent cement as per IS:13592-1992 for pipes and IS:14735 for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions etc., laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc., including cost of materials, labour, machinery and equipments with all leads and lifts, loading and unloading charges, transportation cost and conveyance, all other incidental charges etc., at all levels complete for successful completion of work as per specifications and as directed by the Engineer-in-charge.				
21.1.1	NSR	75 mm diameter	30	metre	526.25	15,788
21.1.2	NSR	110 mm diameter	40	metre	710.45	28,418
21.2	NSR	Providing and fixing C.P. brass 2 in 1 bib cock of M/s. Jaquar make catalogue no.FLR-5041N or equivalent with wall flange etc. complete as per directions of Engineer-in-charge.	4	each	1535.20	6,141
21.3	NSR	Providing and fixing C.P. brass health faucet of M/s. Jaquar make no.ALD 563 etc. complete as per the direction of Engineer-in-charge.	4	each	1427.05	5,708
					Total	97,40,734
		Modified Estimated Cost after using Correction factor on DSR 2023 on account of GST @ 0.973 on Rs. 96,84,679/-	96,84,679	97.30%	A	94,23,193
		Add Cost Index 118 on Schedule Items amount i.e. 94,23,193 x (118 - 107)/107X100	94,23,193	10.28%	B	9,68,739
		NSR Items Total	56,055		C	56,055
		Total Rs.		A+B+C		1,04,47,987

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

SCHEDULE OF QUANTITIES-ELECTRICAL

Name of work: Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.

Sl. No	Description of items	Qty.	Unit	Rate	Amount	
	<u>Subhead-I (IEI & fans)</u>					
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS/HFFR 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/HFFR PVC insulated copper conductor single core cable etc. as required.					1.1
1.1	Group C	80	Each	1704	136320.00	1.10.3
2	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.					1.7
2.1	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	150	Meter	370	55500.00	1.7.1
2.2	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	400	Meter	476	190400.00	1.7.3
3	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.					1.20
3.1	25 mm	100	Meter	289	28900.00	1.20.2
4	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.					39.17
4.1	1 Run of cable	100	Meter	60	6000.00	39.17.1
4.2	2 Run of cable	100	Meter	96	9600.00	39.17.2
5	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.					1.18
5.1	2 Pair	100	Meter	39	3900.00	1.18.2

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

6	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc. as required.					1.27
6.1	3 Module (100mmX75mm)	10	Each	384	3840.00	1.27.2
6.2	6 Module (200mmX75mm)	30	Each	462	13860.00	1.27.4
7	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					1.24
7.1	5/6 A switch	30	Each	121	3630.00	1.24.1
7.2	3 pin 5/6 A socket outlet	30	Each	136	4080.00	1.24.4
7.3	15/16 amps Switch	40	Each	176	7040.00	1.24.3
7.4	6 pin 15/16 A socket outlet	40	Each	219	8760.00	1.24.5
7.5	Telephone socket outlet	15	Each	168	2520.00	1.24.6
8	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.	15	Each	212	3180.00	39.14
9	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.	10	Each	807	8070.00	1.57
10	Supplying and fixing following ways surface/ recess mounting, vertical type, 415 volts, TPN MCCB 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, with provision for MCCB as incomer, interconnection between incomer MCCB and bus bars and DB to be mount on 50x50x5 mm MS angle frame including painting with red oxide primer and enamel paint etc (but without MCB's/ MCCB) as required.					
10.1	12 Way (MCCB + 36), Double Door VTPN DB	1	Each	28429	28429.00	MR
11	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.					2.2
11.1	200 A,36KA,FPMCCB	1	Each	15956	15956.00	2.2.15

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

12	Supplying and fixing following rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					2.10
12.1	Single pole (5-32 Amps)	36	Each	285	10260.00	2.10.1
13	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, frequency 50/60 hz, Operating temp range -5 °C to 40 °C, 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. 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).					8.6
	Powder coated die cast /Extruded aluminium Body (Thickness > 1.20 mm)					
13.1	36 watt	55	Each	2508	137940.00	8.6.4

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

14	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, frequency 50/60 hz, Operating temp range -5 °C to 40 °C, 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. 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).					8.9
	Powder coated die cast /Extruded aluminium Body (Thickness > 1.20 mm)					
14.1	18- 22 Watt	3	Each	681	2043.00	8.9.1

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

15	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°C to 40°C, 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. 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 and <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)					8.1
	Powder coated die cast /Extruded aluminium Body including trim					
15.1	18 watt	4	Each	920	3680.00	8.1.4
16	Brush Less Direct Current (BLDC) Fan with Remote Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal(Aluminium 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%, remote (preferably mobile app based) for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 °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					9.1

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

	fan i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required.					
16.1	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	12	Each	2882	34584.00	9.1.3
17	Supply, Installation, Testing and Commissioning of Heavy Duty Metallic Exhaust fan of size 300 mm sweep, 1400 RPM, suitable for operation on 230V single phase A.C supply along with supply & fixing of G.I louvres / shutters in the existing opening / ventilator framewall, including making good the damage, connections etc., as required	10	Each	4818	48180.00	MR
18	Supplying, installation, testing and commissioning of Geyser of capacity 25 litres storage type made up of rust proof metal body with glass coated heating tank and element, temperature control knob, 2KW Geyser 5 star rating including connection pipes, plug tops, fasteners, multi function safety valves etc. for operation on 230Volts, 50HZ, single phase, AC supply etc, complete as required.	2	Each	12391	24782.00	MR
19	Supplying of following sizes of XLPE insulated and PVC extruded inner sheathed, flat steel strip / wire armoured aluminium conductor, overall armoured PVC extruded inner sheathed cable of 1.1 KV grade confirming to IS:7098 (Part-I) 1988 with upto date amendments duly ISI marked complete as required.					MR
19.1	3.5C x 70 sq mm	50	Meter	1054	52700.00	
19.2	4C x 10 sqmm	30	Meter	252	7560.00	
20	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.					15.16
20.1	63 mm dia (OD-63 mm & ID-51 mm nominal)	80	Meter	289	23120.00	15.16.1
21	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.					10.5
21.1	Upto 35 sq. Mm	80	Meter	47	3760.00	10.5.1

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

22	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.					10.80
22.1	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	50	Meter	109	5450.00	10.8.2
23	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.					11.1
23.1	4 X 10 sq. mm (25mm)	2	Each	325	650.00	11.1.32
23.2	3½ X 70 sq. mm (38mm)	2	Each	542	1084.00	11.1.23
24	Supply, installation, testing and commissioning of LED bollard luminaire (IP65) with high level of durability, high impact resistance and having not less than 1100 system Lumens output with system wattage not more than 10watts, colour temperature 3000K, non - yellowing diffuser complete with constant driver unit duly wired and as per specifications of LED fittings attached, fixing on suitable foundation with nuts& bolts, including connections with 3 core 1.5 sq. mm FRLS PVC insulated, copper conductor cable, earthing etc. as required.	10	Each	6119	61190.00	MR
25	Supplying, Installation, Testing and Commissioning of PVC insulated PVC sheathed copper conductor submersible flat cable ISI Marked in existing metal/ HDPE / PVC/ pipe/ in bore well/ in sump including fixing the cable to GI/HDPE pipe with suitable cable tags of following sizes etc. as required.					20.28
25.1	3 Core 1.5 Sq mm Flat Cable	50	Meter	76	3800.00	20.28.1
26	Supply and fixing of weather proof loop in loop out box of size not less than 205mm(L) x 255mm(B) x 112mm(H), with knockouts for cable entry made out of PVC thermo plastic shock proof box, with locking arrangement i/c supplying and fixing the following accessories drilling holes, connections, earthing the body, along with suitable MS clamp of size 25mm x 3mm, aluminium painted flat iron strip for fixing the box including 32A 4P MCB testing and commissioning etc., complete as required.	1	Each	5375	5375.00	MR

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

27	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with two numbers GI Suspenders i/c base of suitable size GI angle, GI bolts & nuts, fastner etc as required.					4.6
27.1	225 mm width X 50 mm depth X 1.6 mm thickness	80	Meter	991	79280.00	4.6.3
28	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 Meter long etc. with charcoal/ coke and salt as required.	2	Sets	8351	16702.00	5.4
29	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.	10	Meter	755	7550.00	5.11
30	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	70	Meter	287	20090.00	5.15
31	Supplying , Installation, Testing and Commissioning of Air Cooled Hi Wall split type Air conditioners complete with Indoor unit(IDU), Out door unit (ODU), surface / concealed copper Refrigerant piping with insulation (closed cell elastomeric nitrile rubber tubular pipe section) upto 3 Mtr (IDU to ODU), copper power cable upto 3.5 Mtr (IDU to ODU) i/c drain pipe R-32/R-410/ R-407 Green Refrigerant, wireless Remote control, suitable for working between 180-260V with low & high voltage cutoff and 50 hz ,1 phase AC supply capable of performing cooling, dehumidification, air circulation of following capacity with Scroll / rotary compressor. The system shall be able to deliver 100% of the rated capacity upto 42 °C. Min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB). Must comply : Electrical cable IS 694 or IS 9968 temperature sensing control IS /International Electrotechnical Commission (IEC) 60730, hermetic compressor IS 10617, heat exchanger IS 11329, capacitor IS 2993 and motor IS 12615. Complete as per CPWD specification and IS : 1391 Part II 2023. The system shall be able to operate up to 50 °C (out door ambient temperature).					
	Inverter Type - Cooling only					
31.1	1.5 TR with 5 Star BEE Rating	2	Each	43539	87078.00	32.2.3
31.2	2.0 TR with 5 Star BEE Rating	2	Each	57396	114792.00	32.2.4

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

32	Supplying, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for VRV/VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-O tubular insulation/with Class-O closed cell elastometric nitrile rubber tubular sleeves sections of 19 mm thick insulation as given below for Suction and Liquid lines, all accessories as per specifications etc. as required :					31.14
32.1	6.4 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm	50	Meter	256	12800.00	31.14.1
32.2	12.7 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm	30	Meter	487	14610.00	31.14.3
32.3	15.86 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm	50	Meter	615	30750.00	31.14.4
33	Supply, installation, testing and commissioning of wall mounted type following KVA Automatic voltage stabilizer suitable for operation on 240Volts, single phase AC supply with high and low voltage cut off system, automatically restarts and built in time delay as per the following technical specifications as required.					
33.1	4 KVA	2	Each	3006	6012.00	MR
33.2	5 KVA	2	Each	3041	6082.00	MR
34	Supplying of following size FRLS PVC insulated PVC round sheathed multicore unarmoured flexible copper conductor industrial cable of 1.1KV grade duly ISI marked (IS - 694 with upto date amendment) as required.					
34.1	4 x 2.5 Sq. mm (Control Cable for ACs)	100	Meter	269	26900.00	MR
35	Providing and fixing of following sizes of, ISI Marked rigid UPVC pipe with suitable clamps etc., for drain connections to the split AC units as required.					
35.1	25mm (Heavy Duty)	100	Meter	172	17200.00	MR

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

36	Supplying, Installation, Testing and Commissioning of Air Cooled Cassette type Air conditioners complete with Indoor unit(IDU), Out door unit (ODU), R-32/R410A/R-407 Green Refrigerant, wireless Remote, inbuilt drain pump, suitable for 230/415V +10%, 50 Hz ,1 /3 phase AC supply, including surface / concealed copper Refrigerant piping with insulation (closed cell elastomeric nitrile rubber tubular pipe section) upto 5.5 Mtr (IDU to ODU), copper power and control cable upto 5.5 Mtr (IDU to ODU) including drain pipe, the system shall be capable of performing cooling, dehumidification, Air circulation, filtration & ventilation of following capacity with Scroll/rotary compressor with min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB) as specified. The system shall be able to deliver 100% of the rated capacity as per relevant IS Code. The lab testing reports as per IS: 1391 shall be submitted from National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited as per International Electrotechnical Commission (IEC) 17025 standards/Central Power Research Institute (CPRI)/ Electrical Research and Development Association (ERDA)with Original Equipment Manufacturer (OEM) etc. complete as per CPWD specification and as per IS: 1391 as required.					
	Inverter Type- Cooling only					
36.1	2.0 TR with 5 Star BEE Rating	4	Each	85731	342924.00	32.4.2
36.2	4.0 TR with 5 Star BEE Rating	2	Each	142201	284402.00	32.4.6
37	Supplying, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for VRV/VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-O tubular insulation/with Class-O closed cell elastomeric nitrile rubber tubular sleeves sections of 19 mm thick insulation as given below for Suction and Liquid lines, all accessories as per specifications etc. as required :					31.14
37.1	9.5 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm	40	Meter	346	13840.00	31.14.2
			Sub Total Rs.		2037155.00	

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

ABSTRACT OF COST OF CIVIL

S.No	NAME OF THE COMPONENT	AMOUNT IN RUPEES
1.	TOTAL AMOUNT OF CIVIL COMPONENT	Rs. 1,04,47,987/-
2	TOTAL AMOUNT OF ELECTRICAL COMPONENT	Rs. 20,37,155/-
3	GRAND TOTAL	Rs. 1,24,85,142/-

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

BLANK

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	

ABSTRACT OF SCHEDULE

कार्य का नाम Name of Work:-		Renovation of CCPF Hanger at Advanced Materials Technology Incubator (AMTI) Facility at ARCI Campus, Balapur, Hyderabad.			
NIT No. 32/2026-27/Hyd-I/Hyderabad (17/CE-HYD/2026-27)					
Estimated Cost put to tender (Rs.)			Rs.		
Name of the Contractor, Address, e-mail Id & Phone No.					
Sl.No.	Name of component	Estimated cost	percentage above / below or at par the estimated cost	% in Figures	Total Cost
1	Civil	Rs. 1,04,47,987/-			
2	Electrical	Rs. 20,37,155/-			
	Total Rs.	Rs. 1,24,85,142/-			-
Important Note: 1. The Percentage rate quoted by the tenderer shall be firm and inclusive of <u>GST & all other applicable taxes, duties, cess, levies, Octroi etc.</u> in respect of this contract and Government shall not entertain any claim whatsoever in this respect. 2. The Estimated Cost Put to tender has been worked out by taking into consideration the Cost Index of Hyderabad for DSR 2023 items and considering the Market Rates for NSR items. 3. The tenderer is required to quote a single consolidated Percentage only above / below Estimated Cost to Cover all the rates of all the items. This column should not be left blank, otherwise the tender shall be treated as INVALID. 4. The Percentage shall be typed only in figures upto 2 (two) places of decimal along with algebraic sign. 5. The tenderer shall enable the macros before entering the figures, to see the quoted percentage and amount in words. 6. If the Percentage quoted both in words and figures are not clear, or if the rate is not quoted in Percentage, the offer will be treated as INVALID.					
Signature of contractor : Name : Date : Postal Address : E-mail ID :			Executive Engineer, HYD-I, CPWD, Hyderabad.		

Cor	NIL		Ins	NIL
Omi	NIL		Ovw	NIL
AE(C)	AE(E)		EE(C)	