Government Of India

Ministry Of Housing & Urban Affairs

Central Public Works Department

Excellence in Public Works

Tender Published

Current Tender Details

Tender ID	130148	**NIT/RFP NO**	03/2025-26/SE/CCU/CED-I/New Delhi
Name of Work	A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi.		
Procurement Type	Works	**Bid Type**	Percentage
Tender Type	OPEN	**Estimated Cost**	₹ 2,70,86,767 (Two Crore Seventy Lakh Eighty Six Thousand Seven Hundred and Sixty Seven Rupees)
Bid Submission Closing Date	27/10/2025 15:00	**Competitive Bidding Type**	NCB

Tender Published Successfully.

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Central Public Works Department

Excellence in Public Works

Tender Consolidation View

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Enquiry Particulars

Regional Office	**EE - CED - I**	**Office Inviting Bids**	**Chandigarh - CE - E and F - EE - CED - I**
Tender ID	**130148**	**NIT/RFP NO**	03/2025-26/SE/CCU/CED-I/New Delhi
Name of Work	A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi.	**Subwork/Packages**	
Time Allowed	5 months	**Tender Type**	OPEN
Procurement Type	WORKS	**Bid Type**	Percentage
Type of Work	Civil Works - Others	**Category of Tender**	COMPOSITE
Estimated Cost(INR)	₹ 2,70,86,767	**Competitive Bidding Type**	NCB

Bid Submission Dates

Last Date & Time of receipt of Pre-Bid Queries	27/10/2025 14:55	**Receipt of Queries through**	Email
Email	eeced1ccu-mef@nic.in		
Bid Submission Closing Date & Time	27/10/2025 15:00	**Bid Validity Period (In Days)**	30
Bid Validity Expiry Date	26/11/2025 15:30	**Tender Notice Type**	Standard Notice Tender

Tender Inviting Authority Particulars

Office Inviting Bids	EE - CED - I	**Designation**	Executive Engineer
Address	Civil Construction Unit, 7th Floor, Pt. Deendayal Antyodaya Bhawan, CGO Complex, Lodhi Road New Delh	**Contact Details**	9969617538
Email	eeced1ccu-mef@nic.in		

EMD Details

EMD (INR)	EMD in favour of	Mode of Payment
₹ 5,41,735	Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi-110003	DD,FDR,BC,BG

Bid Openers

Department User Name	Region	Mobile Number	Email	Designation	Certificate serial No	Certificate Expiry
SANJAY KUMAR MEENA	EE - CED - I	9969617538	aecivilcpd@gmail.com	Executive Engineer	5b89003586e5	07/10/2027 01:07
PREM SINGH MEENA	EE - CED - I	9953740290	premmeena1976@gmail.com	Assistant Engineer	180a5af	11/03/2026 02:31

Tender Documents

S.No	File Name	File Description	File Size (in Bytes)	Uploaded Date
1	**NIT 03_2025-26_SE.pdf**	NIT 03 2025-26	1488002	16/10/2025 12:16
2	**Eligibility.pdf**	Eligibility	384607	16/10/2025 12:16

Mandatory Documents Details

S.No	Documents Required from Vendor	Document Type
1	Insurance Surety Bond, Demand Draft/ Account Payee Bankers Cheque/FDR/ Bank Guarantee of any commercial Bank against EMD.	Mandatory
2	Enlistment order of the Contractor in appropriate Class and Category in CPWD	Mandatory
3	Receipt of deposit of EMD in any divisions of CPWD/CCU, MoEF and CC	Mandatory
4	GST Registration Certificate, if already obtained by the bidder.	Mandatory
5	Any other Document as specified in the NIT	Mandatory

Eligibility Documents Details

S.No	Documents Required from Vendor	Document Type
1	Eligibility	Mandatory

Tender Covers

S.No	Cover Name	Bid Opening date	View Details
1	Single Bid	27/10/2025 15:30	View Action

Single Bid

S.No	File Name	File Size(in Bytes)
1	130148-PercentageComposite1.xls	60928

Done

INDEX

Name of work: A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi.

NIT No.: 03/2025-26/SE/CCU/CED-I/New Delhi

Certified that this NIT contains Pages 1 to 79.

Executive Engineer, CED-I, CCU
(For and on behalf of the President of India)

PART-A

GENERAL INFORMATION

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

The Executive Engineer, CED-I, Civil Construction Unit (CCU), Ministry of Environment, Forest & Climate Change (MoEF&CC), 7thFloor, Pt. Deen Dayal Antyodaya Bhawan, CGO Complex, Lodhi Road, New Delhi-110003 on behalf of President of India invites online Percentage rate bids from approved and eligible contractors of CPWD for the following work: -

NIT No.	03/2025-26/SE/CCU/CED-I/New Delhi
Name of Work	**A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi.**
Location	New Delhi
Estimated cost put to tender	**Rs. 2,70,86,767/-** (Civil Rs. **2,35,45,975**/- + E&M Rs.**35,40,792**/-)
Earnest Money	**Rs. 5,41,735/-**
Period of Completion	**5 (Five) Months**
Last time & date of submission of online bid, copy of receipt of deposition of original EMD and other documents as specified in Notice Inviting e-Tender.	03:00 PM on 27.10.2025
Time date of opening of bid	03:30 PM on 27.10.2025

* *To be filled by Executive Engineer, CED-I, CCU

1) The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

2) Information and Instructions for bidders posted on websites shall form part of bid document.

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

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**and **https://cpwd.gov.in** free of cost.

5) The bid can only be submitted after deposition of original EMD either in the office of Executive Engineer, CED-I, CCU, MoEF&CC, inviting bids or division office of any Executive Engineer, CCU/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 issued in favour of Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi, receipt for deposition of original EMD to division office of any Executive Engineer (including NIT issuing EE / AE), CCU/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. The column meant for quoting rate in figures appears in pink 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).

11) Contractor must ensure to quote rate in the prescribed column(s) meant for quoting rate in figures appears in yellow colour and the moment rate is entered, it turns sky blue. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO). However, if a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

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

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

2) Enlistment order of the Contractor in appropriate Class and Category in CPWD.

3) Receipt of deposit of EMD in any divisions of CPWD/CCU, MoEF&CC

4) GST Registration Certificate, if already obtained by the bidder.

   If the bidder has not obtained GST registration as applicable, then he shall scan and upload following undertaking along with other bid documents.

   "lf 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 CCU, 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 CCU or GST department in this regard".

5) Any other Document as specified in the NIT.

Executive Engineer, CED-I

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 "**A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi.**"

   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. **2,70,86,767/-** This estimate, however, is given merely as a rough guide.

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

3. The time allowed for carrying out the work will be **5 (Five) months** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.

4. The site for the work is available on as it is where it is basis.

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

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

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

8. 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, CED-I, CCU, New Delhi) 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, CCU/CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT.

   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** 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.

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 CCU/CPWD and other documents scanned and uploaded are found in order.

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

11. The contractor whose bid is accepted will be required to furnish performance guarantee at specified percentage of the tendered amount as mentioned in schedule E and within the period specified in Schedule F. This guarantee shall be in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks 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. 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 CCU Circle 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 Civil Construction Unit or in the Ministry of Environment, Forests and Climate Change. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of the Department.
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 bid for the work shall remain open for acceptance for a **period of 30 (Thirty)** days from the date of opening of tenders.

    Further

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

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

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

19. This notice inviting Bid shall form a part of the contract document. The successful bidders/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:-

    i) 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.

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

20. 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 within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer-in-Charge.

21. 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. 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.

22. The main contractor has to enter into MoU with agency(s) associated by him/ Copy of such MoU shall be submitted to Engineer in charge. In case of change of associate contractor, the main agency(s) has to enter into MoU/agreement with the new contractor associated by him.

23. 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 *....., e- mail Id *.....) or ERP helpline 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.

24. Price Preference to SC/ST individual contractor for item rate/percentage rate tender: Price preference in quoted item rate/percentage rate tender shall be applicable to the individual enlisted/non-enlisted SC/ST contractor as under:-

(i) For work(s) upto and equal to an estimated cost of Rs. 2.70 lakh a price preference upto 5% (with reference to the lowest valid tender) may be allowed in favour 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.

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, CED-I, CCU
(For and on behalf of the President of India)

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE

STATE	**Delhi**	**CIRCLE**	**SE, CCU, MoEF&CC**
BRANCH	**B&R**	**DIVISION**	**CED-I, CCU**
ZONE	**CE, CCU, MoEF&CC**		

PERCENTAGE RATE BID AND CONTRACT FOR WORKS

(A) Tender for the work of "**A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi during 2025-26(Civil and E&M work).**"

(i) To be submitted online by 3.00 PM on 27.10.2025

(ii) The online Bid shall be opened in presence of tenderers who may be present at 3.30 PM on27.10.2025 in the office of the Executive Engineer, CED-I, CCU, New Delhi.

* To be filled by EE

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 **30 days** from the due date of its opening and not to make any modification 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. 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 & 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 CCU in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

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

Dated:

Signature of Contractor
Postal Address ----------**
Telephone No. ----------**
Fax ----------**
E-MAIL ----------**

Witness:

Address:

Occupation:

** To be filled by Bidder

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 President of India

Signature……*…….

Dated: ----------* Designation …….*…….

* To be filled by Executive Engineer

SCHEDULES (A to F)
(For Civil, Electrical &Mechanical Component)

SCHEDULE 'A'

Schedule of Quantities — As per contract document

SCHEDULE 'D'

Extra schedule for specific requirements/document for the work, if any:	As per contract documents

SCHEDULE 'E'

Reference to General Conditions of contract	General Conditions of Contract 2023 for maintenance works, Central Public Works Department, as modified & corrected upto previous day of the last date of submission of the tender.
Name of Work	A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi.
Estimated cost of the work	Rs. **2,70,86,767**/-
Earnest money	Rs.**5,41,735/-**
Performance Guarantee	5% (Five percent) of tendered amount
Security Deposit	2.5% (Two Point Five percent) of tendered amount.

SCHEDULE 'F'

General rules and direction: -

Officer inviting tender	Executive Engineer, CED-I CCU, MoEF&CC, 7thFloor, Pt. Deen Dayal Antyodaya Bhawan, CGO Complex, New Delhi-110003

Definitions:

2(vi)	Engineer-in-Charge	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof

2(viii)	Accepting Authority	Superintending Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof
2(x)	Percentage on cost of materials and labour to cover all overheads and profits	7.5% for items of supply of materials and 15% for execution of items
2(x)(b)	Standard Schedule of Rates	DSR 2023 Corrected up to last date of submission of bid (for civil work volume I & II) DAR 2023 Corrected up to last date of submission of bid (for civil work volume I & II) DSR 2025 Corrected up to last date of submission of bid (for Elect. work)

2(xi)	Department:	Civil Construction Unit, MoEF&CC
9(ii)	Standard CPWD Contract Form	CPWD Form 7 of General Conditions of Contract 2023 for Maintenance Works, Central Public Works Department, as modified and corrected up to previous day of the last date of submission of bids.

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 as provided in i) above	3Days
Clause 2	Authority for fixing Compensation under Clause 2	Superintending Engineer, CCU, MoEF&CC his legal successor or Assignee thereof
Clause 5	Number of days from the date of issue of letter of acceptance for reckoning date of start:	7 Days

Mile stones as per table given below

S.N.	Description of mile stone (s) (Physical)	Time allowed (From date of start)	**Amount to be withheld in case of Non-achievement of each Mile stone(s)**.
1	Gross amount of work done amounting to 20% of accepted tender amount.	01 month	In the event of not achieving the necessary physical mile stone, 1.00 % (one percent) of the agreement amount will be withheld for failure in achieving each mile stone.
2	Gross amount of work done amounting to 40% of accepted tender amount.	02 month	
3	Gross amount of work done amounting to 60% of accepted tender amount.	03 month	
4	Gross amount of work done amounting to 80% of accepted tender amount.	04 month	
5	Gross amount of work done amounting to 100% of accepted tender amount.	05 month	

Time allowed for execution of work: **5 (Five) Months**

Authority:

i)	To convey the decision of shifting of milestone and extension of time:	Executive Engineer, CED-I, Civil Construction Unit (CCU), Ministry of Environment, Forest & Climate Change (MoEF&CC), CGO Complex, Lodhi Road, New Delhi -110003 or his legal successor or Assignee thereof
ii)	To decide rescheduling of mile stones and extension of time.	Superintending Engineer, Civil Construction Unit (CCU), MoEF&CC, CGO Complex, Lodhi Road, New Delhi -110003 or his legal successor or Assignee thereof.
iii)	To decide shifting of date of start in caseof delay in handing over of site	Superintending Engineer, Civil Construction Unit (CCU), MoEF&CC, CGO Complex, Lodhi Road, New Delhi -110003 or his legal successor or Assignee thereof.

Schedule of handing over of site

Part	Portion of site	Time period for handing over reckoned from date of issue of letter of intent
Part A	Portion without any hindrance	On date of commencement
Part B	Portions with encumbrances	NA
Part C	Portions dependent on work of other agencies	NA

Clause 6: Computerised Measure 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	**Rs. 47 Lakhs for Civil Works and 7 lakhs for Electrical & Mechanical works**

Clause 7A

Whether clause 7A shall be applicable.	Yes

Clause 8

Competent Authority to inspect and issue completion certificate	Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi

Clause 10 A

List of testing equipment to be provided by the contractor at site lab.

Civil Work: Measuring tape 3 m.- 2 Nos., Steel tape- 30 m, Vernier calipers, plumb bob, spirit level minimum 30 cm long with 3 bubbles, wire gauge (Circular type) disc, steel foot rule, long nylon thread, magnifying glass, screw driver 30 cm long, ball pin hammer 100 gms, plastic bags for taking samples etc.

Electrical work: Earth Tester, Insulation Tester (LT/ HT), Tong Tester, Multimeter, Lux Meter, Vernier Caliper, Wire Gauge, Hand Blower/Vacuum Cleaner, Drill Machine, Chase Cutting Machine, Crimping Tool Kit, Self-Supporting Ladder - 4 feet (2 Nos.) Ladder – 20 feet (1 No.).

Clause 10 B(ii)

Whether Clause 10 B (ii) shall be applicable	No

Clause 10 C

Whether Clause 10 C shall be applicable	Yes
Component of labour expressed as percent of value of work	25%

Clause 10 CC: Not applicable

Clause 11

Specifications to be followed for execution of work (for civil work)	:	1. **Civil work**: CPWD Specifications 2019 Volume- I & II with up to the date corrections slips. 2. MORTH Specifications for Roads and Bridge work.
Specifications to be followed for execution of work **(for Electrical work)**	:	**Electrical & Other works (**amended upto date): 1. CPWD General Specification for Electrical Works Part I (Internal) & Part II (External) –2023. 2. General Specification for Heating Ventilation & Air-Conditioning-2024.

Clause 16

Competent authority for deciding reduced rates	**:**	Superintending Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof

Clause 18

List of Mandatory Machinery, tools & plants to be deployed by the contractor at site:-

As per details attached in the relevant pages of this bid document

Clause 19

Clause 19 C	Authority to decide penalty for each default	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof
Clause 19 D	Authority to decide penalty for each default	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof
Clause 19 G	Authority to decide penalty for each default	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof
Clause 19 K	Authority to decide penalty for each default	Executive Engineer, CED-I, CCU, MoEF&CC or his legal successor or Assignee thereof

Clause 25

Conciliator:	:	Superintending Engineer, Civil Construction Unit (CCU), MoEF&CC, CGO Complex, Lodhi Road, New Delhi -110003 or his legal successor or Assignee thereof
Arbitrator Appointing Authority	:	Chief Engineer, Civil Construction Unit (CCU), MoEF&CC, CGO Complex, Lodhi Road, New Delhi - 110003 or his legal successor or Assignee thereof
Place of Arbitration	:	New Delhi

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

Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation	Minimum experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)
1	Graduate Engineer Or Diploma Engineer	Civil +Electrical	Project Manager cum planning/ quality/site /billing Engineer	2 or 5 years respectively	1+1	Rs. 30,000/- per month per person

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

2) 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.

Clause 38

(i)	(a)	Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of (for civil work)	Delhi Schedule of Rates 2023 printed by C.P.W.D. with upto date correction slip upto last date of bid submission.
		Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of (for Electrical work)	Delhi Schedule of Rates 2022 printed by C.P.W.D. with upto date correction slip upto last date of bid submission.
(ii)		Variations permissible on theoretical quantities:	
	(a)	Cement	
		For works with estimated cost put to tender more than Rs. 25 lakhs.	**2% (Two percent) plus/minus.**
	(b)	Bitumen for all works	**2.5% (Two-point five percent) plus only and nil on minus side.**
	(c)	Steel Reinforcement and structural steel sections for each diameter, section and category	**2% (Two percent) plus / minus**
	(d)	All other materials	**Nil**

Annexure- 'A'

PROFORMA FOR THE RECEIPT TO BE ISSUED BY THE EXECUTIVE ENGINEER RECEIVING THE EMD

Receipt of deposition of original EMD (drawn in favour of **Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi)** (Receipt No. ……../ date…….)		
Name of work	:	A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi.
NIT No	:	03/2025-26/SE/CCU/CED-I/New Delhi
Estimated Cost	:	Rs. **2,70,86,767**/-
Amount of Earnest Money Deposit	:	
Last date of submission of bid	:	
To be filled by EMD receiving Executive Engineer		
Name of contractor	:	
Form of EMD	:	
Amount of Earnest Money Deposit	:	
Date of Submission of EMD	:	
		(Signature) Name and Designation of EMD receiving officer (EE/AE(P)/AO/AAO) along with office stamp

Annexure-B

(On non-judicial stamp paper of minimum Rs. 100)

(Guarantee offered by Bank to CCU in connection with the execution of contracts)

Form of Bank Guarantee for Earnest Money Deposit /Performance Guarantee/Security Deposit

1. Whereas the Executive Engineer …… (name of division) ……., CCU 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) ……., CCU 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 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 hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ……..(Rupees …….only).

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

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

   Authorized signatory
   Name
   Staff code no.

2. Signature …….
   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.

LIST OF EQUIPMENTS FOR TESTING OF MATERIALS&CONCRETE AT SITE LABORATORY

All necessary equipment for conducting all necessary tests shall be provided at the site in the well-furnished site laboratory by the contractor at his own cost The following minimum laboratory equipment's shall be set up at site office laboratory:

Sl.No.	Equipment	Numbers (Minimum)
1	Compressing testing machine	As per Requirement of work
2	Cube mould	
3	Slump cone, steel plate, tamping rod, steel scale, scoop	
4	Graduated glass measuring cylinder	
5	Sets of sieves of 450mm internal dia for coarse aggregate [100mm, 80mm, 40mm; 20mm;12.5mm, 10mm;4.75mm complete with lid	
8	Sets of sieves of 200mm internal dia for fine aggregate [4.75mm;2.36mm;1.18mm; 600 microns;300 microns& 150micron ,	
9	Sieve Brushes and sieve shaker capable of 200mm and 300mm dia sieves, manually operated with timing switch assembly	
10	Electronic balance 600gx0.1g., 10kg ~~and 50kg~~	
11	Physical balance weight upto 5 kg	
12	Measuring jars100ml, 200ml,500ml	
13	Gauging trowels 100mm & 200mm with wooden Handle	
14	Spatula 100mm & 200mm with long blade wooden Handle	
15	Vernier callipers12" &6" size	
16	GI tray 600x450x50mm, 450x300x40mm,300x250x40mm	
17	Screw gauge 0.1mm-10mm, least count 0.05	
18	Set of box spanner	
19	Hammer1lb & 2lb	
20	Rubber Hammer	
21	Hacksaw with 6 blades	
22	Measuring tape 5mtr	
23	Depth gauge 20cm	
24	Shovels &Spade	

Note: The above list is only indicative and not exhaustive. The contractor may be required to provide more equipment's as per the requirement of work and as per the direction of the engineer- in- charge.

LIST OF MANDATORY MACHINERY, TOOLS & PLANTS TO BE DEPLOYED BY THE CONTRACTOR AT SITE

S. No	Equipment	Numbers (Minimum)
1.	Needle Vibrators.	As per Requirement of work
2.	Plate Vibrator	
3.	JCB, Excavator, Dumper, Tipper	
4.	Reinforcement cutting & Bending machines	
5.	Total station.	
6.	Auto level & staff.	
7.	Water tanker (Minimum capacity of 5000 litres)	
8.	Welding machine 400 Ampere	
9.	Screener for coarse sand and fine sand	
10.	Centrifugal mono block water pump minimum capacity 2 HP	
11.	Steel Shuttering with necessary steel props	
12.	Steel scaffolding and staging materials	
13.	Plain Concrete/Mortar Mixer	
14.	Semi-Automatic Pavement Concrete Paver	
15.	Screed Vibrator	
16.	Any other machinery required for completion of the work as per decision of Engineer-in-charge.	

ADDITIONAL CONDITIONS

1. GENERAL

1.1. 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 (rainfall, snowfall, winter/summer temperatures etc.), general ground / subsoil conditions etc. or any other circumstances which may affect or influence their tenders. No claims, whatsoever, shall be entertained at a later date for any errors found, on plea that the information supplied by the Department in the tender is insufficient or is at variance with the actual site conditions.

1.2. The work shall generally be carried out in accordance with the "CPWD Specifications 2019 Vol. I & II" with correction slips up to last date of submission of bid (including any extension in last date of bid submission), additional/Particular Specifications, and as per instructions of Engineer-in-Charge. Any additional item of work, if taken up subsequently, shall also conform to the relevant specifications mentioned above.

1.3. The several documents forming the tender are to be taken as mutually complementary to each other. Detailed drawings shall be followed in preference to small scale drawings and figured dimensions in preference to scale dimensions. Between two or more Clauses of this Contract, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses.

1.4. A reference made to any Indian Standard Specifications in these documents, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The Contractor shall keep at his own cost all such publications of relevant Indian Standard applicable to the work at site.

1.5. The tenderer shall acquaint himself with the proposed site of work, its approach roads, working space available etc. before quoting his rates and no claim on this account shall be entertained by the department.

1.6. The contractor will not be allowed to construct labour huts in the Campus. The contractor have to make arrangement for labour huts outside Campus at his own cost. Nothing extra shall be paid on this account.

1.7. The contractor shall keep the site neat & clean during execution of the work and cover the building materials with cloths.

1.8. In case of any fine imposed by authorities due to scattered malba / building materials or any harm due to malba / materials or by worker of the contractor the same shall be paid by contractor within prescribed period otherwise same shall be recovered from the bills or securities / performance guarantee of the contractor.

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

1.10. The contractor shall ensure that there is no damage to adjoining property/structure. If any such untoward incident happens, he shall be entirely responsible for any consequences besides making good any damages to the adjoining property whether public or private. He shall supply and maintain lights either for illumination or for cautioning the public at night.

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

1.12. 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 and any pollution of smoke, streams and water-ways. He 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 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.

1.13. 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 building/adjacent properties.

1.14. Other agencies may also simultaneously execute and install the works of other Civil and E&M services for the work. 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 and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.

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

1.16. Royalty at the prevailing rates wherever payable shall have to be paid by the contractor on the boulders, metal, shingle, sand, local earth/soil and bajri etc. or any other material collected by him for the work direct to revenue authorities and nothing extra shall be paid by the department for the same.

1.17. 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 work for which the 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.

1.18. The contractor shall deployed adequate resources e.g. manpower, labour, T&P, Plant & Equipment etc. as per actual requirement of work.

1.19. The rates for all items of work shall, unless clearly specified otherwise, include cost of all labour, material, tools and plants and other inputs including all heights/depths, leads and carriages involved in the execution of the item.

1.20. The Contractor shall keep himself fully informed of all acts/laws of the Central/State/Local Governments, orders of central/state/local government, 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 / Municipal Corporation of area (where site is located) 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 national/state/local authorities. The contractor shall abide and ensure compliances to terms and conditions of various approvals obtained for the project. He shall protect and indemnify the Department and it's 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. The Contractor shall indemnify the Department 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.

1.21. Unless otherwise specified in the schedule of quantities, the rates tendered by the contractor shall be inclusive of all costs & taxes and shall apply to all leads, lifts, depth and height and nothing extra shall be payable on this account.

1.22. 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.

1.23. The contractor(s) 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. 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.

1.24. The Contractor shall bear all incidental charges for all type of cartage/carriage upto execution site, storage and safe custody of materials issued by department/arranged by the contractor.

1.25. The terms machine batched, machine mixed and machine vibrated concrete used elsewhere in agreement shall mean the concrete produced in concrete batching and mixing plant and if necessary, transported by transit concrete mixers, placed in position by the concrete pumps, tower crane and vibrated by surface vibrator /needle vibrator / plate vibrator, as the case may be to achieve required strength and durability.

1.26. The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors are minimized. Wherever absolutely essential, the chase shall be cut using chase cutting machines. Chases will not be allowed to be cut using hammer / chisel. The electrical boxes should be fixed in walls simultaneously while raising the brick work. The contractor shall ensure proper coordination of various disciplines viz. sanitary & water supply, electrical, fire-fighting and any other services.

1.27. Any cement slurry added over base surface for continuation of concerting for better bond is deemed to have been built in the items and nothing extra shall be payable and no extra cement considered in consumption on this account.

1.28. SAFETYPRECAUTIONS

(i) Necessary personal protective and safety equipment's such as helmet, safety shoes & harness, gloves etc. shall be provided to the all-site Engineers, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and to be used at site.

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

(iii) In case of any accident of labours/ contractual staff's the entire responsibility will rest on the part of the contractor and any compensation under such circumstances if becomes payable the same shall be entirely borne by the contractor and department shall have no role on this account.

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

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

(vi) *The contractor shall have to work in pandemic / epidemic conditions such as* ***COVID 19*** *for which he has to make safety arrangement / measures for the workers / staff and for the premises meant for them, as per guidelines issued by Government and directions issued by Engineer-in-charge from time to time and nothing extra shall be paid on this account.*

1.29. QUALITYASSURANCE

(i) The contractor shall ensure quality work 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.

(ii) 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 particular specification, the same shall be used after getting the same approved from Engineer-In-Charge. Wherever brand / quality of material are not specified in the particular specifications; the contractor shall submit the sample as per list of preferred make given in tender documents. 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.

(iii) The Contractor shall procure and provide all the materials from the manufacturers / suppliers as per the item description in schedule of quantity and particular specifications for the work. The equivalent brand other than brand / make mentioned in particular specification 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 contactor 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.

(iv) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to byelaws and municipal body / corporation where CPWD Specifications are not available. The contractor should engage licensed plumbers for the work and get the materials (fixtures/fittings) tested by the Municipal Body/Corporation authorities wherever required at his own cost. Nothing extra shall be paid on this account.

(v) The tests, as necessary, shall be conducted in the laboratory approved by the 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.

(vi) All the registers of tests (carried out at 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.

(vii) 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.

(viii) 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.

(ix) Unless specified otherwise, all the testing charges shall be borne by contractor.

(x) All the hidden items such as water supply lines, drainage pipes, electrical conduits, sewers etc. are to be properly tested as per the design conditions before covering.

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

(xii) The contractor shall make available, on request from the department, the copies of challan, cash memos, receipts and other certificates, if any, vouchers towards the quantity and quality of various materials procured for the work. The contractor shall also provide information and necessary documentation on the name of the manufacturer,

manufacturer's product identification, manufacturer's instructions, warning, date of manufacturing and test certificates (from manufacturers for the product for each consignment delivered at site), shelf life, if any etc., for the department to ensure that the material have been procured from the approved source and is of the approved quality, as directed by the Engineer-in-Charge. Wherever specified, day-to-day account of receipt of such material shall be maintained at site of work.

(xiii) If the Contractor does not provide adequate supporting staff or labour or both for carrying out field tests or collecting and forwarding samples to outside laboratory or for maintaining test records, Engineer in charge may carry out field tests or collect and forward sample to outside laboratory or appoint any person to maintain the registers at risk and cost of Contractor. The charges so incurred shall be entirely borne by contractor and shall be deducted from Running or final bill of contractor. Further***, recovery of Rs. 1000/- for each default shall be levied to contractor.***

1.30. 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 the others, as the case may be. So, the muck, rubbish etc. shall be removed periodically, 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) If the contractor fails to comply the above conditions for removal / disposal of malba, a fine of Rs.500/- for each fault per day shall be recovered from the contractor. The department may remove the malba so generated and dumped, by issue of a notice or instruction through site order book, by Junior Engineer/Assistant Engineer/ Engineer-in-charge, concerned and a recovery of Rs.300/- per cum shall be made from the contractor. No claim / dispute shall be entertained on these conditions at any stage either during execution of work or after completion of work and decision of the Engineer-in-charge shall be final and binding.

(iii) 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.

(iv) 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 wastewater, slush etc. shall not be allowed to be collected at site. 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.

(v) It is the responsibility of contractor to keep building neat and clean. The contractor shall spray the chemicals fumigate site area to check the mosquitoes at frequent interval or as directed by the Engineer in charge. The contractor shall also make lighting and temporary ventilation arrangement in basement.

(vi) The contractor shall not wash the drum of TM (transit mixture) at site and shall avoid the spread of leachate / cement slurry to be spread at the site of work and all care shall be taken to keep the site neat and clean at his own cost.

1.31. Employ measures to segregate the waste on-site into inert, chemical or hazardous wastes. Recycle the unused chemical/hazardous wastes such as oil, paint, batteries and asbestos. The inert waste is to be disposed off to Municipal Corporation/local bodies dump yard and landfill sites.

1.32. The contractor shall provide potable water for all workers. The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable standard.

1.33. The provisions of "Construction and Demolition Waste Management Rules 2016 in exercise of powers conferred by Environment (Protection) Act 1986 (available at web address www.moef.gov.in) as notified by Ministry of Environment, Forests & Climate Change vide notification dated 29.03.2016 and incorporated vide OM No. DG/CON/Misc./04 dated 23.01.2017 issued by the Office of DG, CPWD, MoUD is to be complied with. **Directives on** Air Pollution from construction and demolition activity (DG/SE/CM/CON/Misc./02 dated 16.03.2016) shall be complied with.

1.34. Water for construction purpose: For water supply, the contractor shall make his own arrangements including boring of tube well, if necessary and nothing extra shall be paid by the department for arrangement of water or on its treatment. The contractor shall get the water tested with regard to its suitability and conforming to the relevant IS code. The contractor shall obtain the written approval from the Engineer-in-charge before he proceeds for using the same for execution of work. The water testing charges shall be borne by the contractor.

1.35. The contractor shall keep at his own cost all publications of relevant Indian standard (BIS) applicable to the work at site. In case of non-compliance, these standards will be purchased by the Engineer-in-charge and actual cost of purchase will be recovered from the Bill of the Contractor.

1.36. Senior Officers of CCU/Ministry/Client Department may inspect the on-going work at site at any time with or without prior intimation. The contractor shall facilitate them in inspection.

1.37. Jurisdiction of Court - Courts at Delhi alone shall have the jurisdiction to decide any dispute arising out of or in respect of this contract.

1.38. CONDITIONS FOR WATER SUPPLY, SANITARY INSTALLATIONS AND DRAINAGE WORK:

a) The contractor shall only employ experienced and specialized workmen for carrying out the Water supply, sanitary installations and Drainage work.

b) Five years Guarantee bond in prescribed proforma attached with NIT shall be submitted by the contractor to meet his liabilities under the Guarantee Bond. The sole responsibility about quality of Water supply, Sanitary installations and Drainage work shall rest with the contractor.

c) Ten percent of the cost of Water supply, Sanitary installations and Drainage work shall be retained as security deposit and the amount so withheld would be released after five years from the date of completion of the entire work under the agreement, if the performance of the work done is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done by the Engineer-in-charge at the risk and cost of contractor.

However, the security deposit deducted may be released in full against Bank Guarantee of equivalent amount in favour of Engineer-in-charge, if so, decided by the Engineer-in-charge. The security deposit against this work shall be in addition to the security deposit mentioned elsewhere in contract form.

1.39. The scope of work includes attending day-to-day complaints, carrying out routine, breakdown and preventing maintenance of all electrical installation & fittings (Operation of substation, rectifying defects and making all electrical points, fans, luminaries, Acs, water purifiers functional etc.) at National Zoological Park.

1.40. ***ELIGIBILITY CRITERIA FOR ASSOCIATE AGENCY:*** The Composite category contractor is also eligible to carry out electrical and mechanical services works himself/herself without associating any specialized agency provided he fulfils the prescribed eligibility criteria respectively for these work(s) as mentioned below:

a) ***Eligibility Criteria for Air-conditioning Work: -***

Agency should have satisfactorily completed the similar works as mentioned below during the last 7 years ending last date of month previous to the one in which tender is invited.

Three similar completed works each costing not less than 40% of the estimated cost put to tender.

OR

Two similar works each costing not less than 60% of the estimated cost put to tender.

OR

One similar works each costing not less than 80% of the estimated cost put to tender.

Similar work shall mean "**Maintenance and repairing of Air-conditioners**".

b) ***Eligibility Criteria for Sub-Station equipment: -***

Agency should have satisfactorily completed the similar works as mentioned below during the last 7 years ending last date of month previous to the one in which tender is invited.

Three similar completed works each costing not less than 40% of the estimated cost of Sub-head- VI (Servicing of Substation equipment's), put to tender with capacity of individual transformer being 80% of individual capacity (rounded off to next available higher capacity) of the equipment

OR

Two similar works each costing not less than 60% of the estimated cost of Sub-head- VI (Servicing of Substation equipment's), put to tender with capacity of individual transformer being 80% of individual capacity (rounded off to next available higher capacity) of the equipment

OR

One similar works each costing not less than 80% of the estimated cost of Sub-head- VI (Servicing of Substation equipment's), put to tender with capacity of individual transformer being 80% of individual capacity (rounded off to next available higher capacity) of the equipment

Similar work shall mean "**Maintenance and repairing of Sub-station equipment"**

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of bids.

1.41. The contractor or his authorized representative is required to visit site twice a week so as to get acquainted with the difficulties of the site, if any.

1.42. It may be ensured by the contractor, that staff employed by him is trained and capable of handling sub-station and should invariably wear gloves while operating switches in the sub-station etc.

1.43. The weekly off to the workers shall be given in such a manner that on any day of the month the maintenance staff is available at site.

1.44. The contractor shall provide 4 no. bicycles for wireman and 3 no. bicycles for pump operator for day-to-day use for attending the complaint at the site.

1.45. The contractor shall ensure that the skilled labour engaged in the execution of work possess valid license issued by appropriate authorities. The wireman / electrician not having valid license shall not be permitted to work.

1.46. No T & P shall be issued by the department & consumable materials, wire, PVC tape, Jute, Grease oil, attendance register to supplied free of cost.

1.47. All the complaints shall be attended promptly after their registration. For this purpose, the contractor shall maintain a complaint register who shall further make arrangements to get complaints recorded in the complaint diaries of the workers. It will be the obligation on the part of workers to obtain the signatures from the allottee / in-charge of the premises in token acceptance of satisfactorily attendance of their complaints.

1.48. General upkeep and cleaning of electrical Installations and other equipment shall be the duty of the contractor within the scope of the contract. In case the installations are found to be not properly maintained, a recovery @ Rs.100/ day shall be made from the bill of the contractor. Dismantle materials received from day-to-day work shall be handed over to the JE(E)/ AE(E) on monthly basis.

1.49. During the idle time, the staff shall be engaged for cleaning, breakdown, routine, preventive maintenance.

1.50. The contractor shall on commencement of work, provide the details of all staff such as license, proof of residence of all workers.

1.51. The contractor will ensure that no frequent replacement / removal of staff without the knowledge of Engineer-in-charge or his authorized representative shall be done.

1.52. The staff, if found to be involved in activities like misbehaviour, not obeying the instructions of Junior Engineer, the engineer-in-charge has the right to remove/ terminate the services of such workers without assigning any reason.

1.53. In case the staff is found absent i.e. deployment of labour is not as stipulated in schedule of quantity on any working day, the recovery shall be made at double the rate of minimum wages of the workers notified by the Delhi government.

1.54. The contractor shall provide complaint register, workers diary, duster, detergent powder, broom, pump log books, attendance register, soap etc. for day-to-day maintenance.

1.55. The contractor shall take immediate action to attend to any complaint assigned to him through site order book/verbal instructions, email, WhatsApp or as directed by Engineer-in-Charge.

1.56. Each worker shall maintain a complaint diary and get the feedback recorded from the users regarding attending the complaint. In case, it is found that the complaint has been attended unsatisfactorily, it will be considered as unattended. List of such complaint shall be submitted to the Assistant Engineer-in-charge or his representative on daily basis.

1.57. When a register gets completed, it will be handed over to the concerned J.E. / A.E. It will not be returned to the contractor and the same will remain the property of the department.

1.58. All required register will be issued by Engineer-in-charge duly marked in chronological order but the contractor will have to arrange all such registers/stationery etc. Nothing extra shall be paid on this account.

1.59. A complaint register, sub-station log book, AC plant log book, pump log book etc., complaint dairy shall be maintained by the contractor.

1.60. In all cases the contractor shall attend the complaint in the specified duration as mentioned below: -

S. N.	Complaint Type		Time
1	Emergency complaints	o Removing choking of drainage pipes, manholes. o Restoration of water supply. o Leakage of water supply pipes. o Repair of over flowing cisterns/ tanks	3 hours
2	Minor complaints	o Replacement of glass panes. o Carpenter complaints. o Mason complaints, such as patch plaster, corner repair, etc.	24hours
3	Major complaints	o Complaints other than no delay and minor complaints shall be attended with in shortest reasonable time to a maximum of seven days	7 days

Following recovery shall be made for delaying in attending complaints. The type of complaint shall be decided by Engineer in charge.

i) Recovery of Rs. **500/-** per complaint per day of delay in attending emergency complaints beyond above mentioned time shall be made.

ii) A recovery of Rs. **300/-**per complaint per day for delay in attending major, minor & periodical complaints beyond above mentioned time shall be made.

iii) All major complaints/ defects w.r.t. electrical & mechanical services should be rectified within 3 (Three) day otherwise recoveries @ Rs. 5000/- per complaint per day shall be recovered from the contractor bill.

1.61. For the purpose of categorization of staff as skilled, semi-skilled and unskilled, the Mason / Plumber / Carpenter /Welder /Computer Operator/ Wireman grade-1 cum operator / Operator/ Work Assistant/ Supervisor/Firemen cum operator/Lift operator shall be taken as skilled, sewer man / Security Guard shall be taken as semi-skilled and sweepers / Beldars / Khalasi shall be taken as unskilled.

1.62. Police verification of every staff deployed by the contractor shall be got done by the contractor compulsorily and a copy of police verification and his Aadhar Card/ Voter ID or any other Identity Card copy shall be provided to Engineer-in-Charge.

1.63. Staff employed by the contractor shall be well behaved, polite & courteous. Any complaint against staff on behavior should be taken very seriously and such staff should be removed by the contractor immediately from the site and arrange replacement for the same failing which the Engineer-in-Charge shall affect recovery as per conditions.

1.64. The contractor shall provide all safety gear and shall make all safety arrangement required for the labour engaged by him at his own cost. All consequences due to negligence or due to lapse of security/safety or otherwise shall remain with the contractor. The department shall not be responsible for any mishap, injury, accident or death of the contractor's staff. The contractor shall indemnify department and all its officials against any such claim or damage arising out of direct or indirect actions of the staff of contractor. No claim in this regard shall be entertained /accepted by the department.

1.65. The contractor shall be fully responsible for any damage caused to Govt. property by him or his labour in carrying out the work directly or indirectly and the same shall be rectified by the contractor at his own cost, failing which the department shall get the necessary rectifications done at the risk and cost of contractor. Chases, holes & drilling works etc. shall be done using only power operated tools. The defective items, materials, finishes, fitting shall be replaced with items of same specifications, make and model and compatible to the work.

1.66. The labour deployed for attending complaints should carry necessary tool kit, container (Tasla) etc. required for mixing any cement sand or other material and should carry with them water bottle and waste bag for collection of minor rubbish material if received during attending the complaints, so that the site of work shall remain neat and clean.

1.67. The contractor shall be mandatorily required to provide certified copies of GST paid invoices to satisfy department that the material has been purchased from the authorized dealer and the GST has been paid.

1.68. The contractor shall comply with legal orders and directions of the local or public authority or Municipality and abide by their rules and regulations and pay all fees and charges of which he may be liable. The contractor shall take all precautions to avoid accidents by exhibiting caution boards, red flags, red lights and providing necessary barriers and all other measures required from time to time. The contractor shall be responsible for all damages and accidents due to negligence on his part.

1.69. Any accident or damage during maintenance/operation will be the responsibility of the contractor and department will not be liable for any claim, compensation, penalty etc. on this

account or on account of non-observance of any other requirement of law relevant to this work.

1.70. The contractor shall provide detail drawings of all moat (layout, cross-section etc.) of National Zoological Park for the purpose of realignment moat before execution of work on its own cost nothing extra shall be paid on this account.

2.0 SPECIAL CONDITIONS FOR PREVENTION OF AIR POLUTION AS PER DIRECTIVES OF NATIONAL GREEN TRIBUNAL (NGT):

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

2.2 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.

2.3 The contractor shall take appropriate protection measures like raising wind breakers of 6.00-meter height on all sides of the plot/area using precoated CGI sheets to ensure that no construction material dust fly outside the plot area.

2.4 The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purpose or are carrying construction material like cement, sand and other allied materials are fully covered. The contractor shall take all 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.

2.5 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.

2.6 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.

2.7 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.

2.8 The contractor shall ensure compulsory use of wet jet in grinding and stone cutting.

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

2.10 The contractor shall carry out on road inspection for black smoke generating machinery. The contractor shall use cleaner fuel.

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

2.12 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.

2.13 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.

2.14 The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.

2.15 In case any penalty is imposed by any Hon'ble Court, NGT or any other authority due to noncompliance of any statutory order, or law or guidelines or pollution control or environmental norms, the same will be borne by the contractor.

3.0 ROAD WORK

Road work shall conform to the MORTH specifications for roads and bridges 2001 shall be followed. **Five years (05) guarantee bond** in prescribed Performa attached at **Annexure-I** herewith shall be submitted by the contractor which shall also be signed by both the specialist agency and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility shall rest with the building contractor.

10% (Ten percent) of the cost of road work shall be retained as security deposit and the amount so withheld would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the work done is found satisfactory , if any defects like road surface cracks, potholes & damages etc. is noticed during the guarantee period, it shall be rectified by the contractor within seven days of the receipt of intimation of defects in the work, if the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of the contractor.

However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer-in-charge, if so, decided by the Engineer-in-charge.

The Security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form

PART-B

LIST OF PREFERRED MAKE / MANUFACTURERS FOR DIFFERENT MATERIALS TO BE USED IN THIS PROJECT FOR CIVIL WORKS

List of preferred make/ manufactures of the different materials to be used in the work mentioned herein below. In case of non-availability of these makes, the Superintending Engineer, CCU may allow use of alternative makes on the recommendations of Engineer-in-charge. Only BIS marked materials in the list shall be used in the work. Non-BIS marked materials may be permitted by the Engineer-in-charge only when BIS marked materials are not manufactured. If approved make/brand of any material is not given in the list, the same will be approved by the Superintending Engineer, CCU on the recommendations of Engineer-in-charge

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
1	ANTI TERMITE PESTICIDES	BAYER, FMC INDIA, HINDUSTAN INSECTICIDES
2	STEEL (TMT FE-500D)	TATA TISCON, RINL, JINDAL STEEL & POWER LTD, JSW STEEL LTD. AND SAIL
3	STRUCTURAL STEEL SECTIONS	TATA, JINDAL, SAIL, RINL
4	CEMENT [OPC AND (P.P.C.) 43 GRADE)]	ACC, AMBUJA, ULTRATECH, WONDER, JK, SHREE
5	PRECAST DUCTS/DRAINS/ DRAIN COVER/KERB CHANNEL	KK, NITCO, KERAKROME, TERRAFIRMA, FUJISILVERTECH
6	WHITE CEMENT	BIRLA WHITE, J.K. WHITE, ULTRATECH
7	CC PAVERS/KERB STONE	NITCO, UNISTONE, KK
8	VITRIFIED TILES (DOUBLE CHARGED / FULL BODY/ULTRA SLIM /ANTISKID / ACID-ALKALI RESISTANT)- (ALL TILES SHALL BE PROCURED FROM FULLY OWNED FACTORY OF THE MANUFACTURER AND NOT FROM JV / OUTSOURCED)	SOMANY, KAJARIA, RAK
9	CERAMIC GLAZED TILES	SOMANY, KAJARIA, RAK
10	WATER-PROOF CEMENT PAINT	SNOWCEM, ASIAN PAINT, SIKA, NEROLAC
11	SYNTHETIC ENAMEL PAINT	ASIAN PAINT, AKZONOBEL (DULUX), NEROLAC, ICI
12	PLASTIC EMULSION PAINT	ASIAN PAINT, NEROLAC, AKZONOBEL (DULUX),, ICI
13	DISTEMPER/ACRYLIC EMULSION PAINT	ASIAN PAINT, BERGER, NEROLAC, DULUX
14	TEXTURED PAINT	ASIAN, OIKAS, DULUX
15	STEEL PRIMER	NEROLAC, BERGER, ASIAN PAINTS
16	WOOD PRIMER	NEROLAC, BERGER, ASIAN PAINTS
17	EXTERIOR WATERPROOFING PAINT	RAINCOAT (DR. FIXIT), ASIAN, BERGER
18	WOOD FINISH (MELAMINE & PU POLISH)	ASIAN. ICI, JOTUN, NEROLAC
19	LAMINATE	MERINO, GREENLAM, CENTURY, DURO
20	PLY BOARD, PLYWOOD (PINE BOARD)	GREENPLY, MERINO, CENTURY, DURO

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
21	SELF LEVELLING COMPOUND	MAPAI, ARDEX ENDURA, BIZZAR
22	EPDM GASKET	HANU, ANAND, VICTOR
23	WOOD ADHESIVE	FEVICOL, 3M, ARALDITE, SIKA
24	FLUSH DOOR (ALL FLUSH DOORS SHALL BE PROCURED FROM FULLY OWNED FACTORY OF THE MANUFACTURER AND NOT FROM JV / OUTSOURCED)	GREEN, MERINO, CENTURY, DURO
25	WATER REPELLENT PAINT	ARDEX ADURA, WEBER, PIDILITE
26	FIRE SEALENT	HILTI, 3M, MCCOY
27	TILE ADHESIVE	PIDILITE, ARDEX ENDURA, WEBER, MAPEI
28	STONE ADHESIVE	PIDILITE, ARDEX ENDURA, WEBER
29	DASH, ANCHORING FASTENERS	HILTI, FISCHER, CANON
30	ALUMINIUM COMPOSITE PANEL	ALUCOBOND, REYNOBOND, ALPOLIC
31	EPOXY GROUTING COMPOUND	PIDILITE, ARDEX ENDURA, WEBER, MAPEI
32	READY MIX GYPSUM PLASTER	SAINT GOBAIN, USG BORAL, ULTRATECH
33	READY MIX CEMENT PLASTER	WEBER, ULTRATECH, BIRLA WHILTE
34	SILICON SEALANT	GE, DOW CORNING, PIDILITE
35	GYPSUM BOARD	USG BORAL, LAFAGE, SAINT GOBAIN, KNAUF DANOLINE
36	FLOAT GLASS	ASAHI, MODI GLASS, SAINT GOBAIN GLASS
37	MECHANICAL COUPERS	USHA MARTIN, DEXTRA, HALFEN
38	CRYSTALLIANE CEMENTITIOUS WATERPROOFING COMPOUND	XYPEX CONSTRUCTION CHEMICAL, KRYTONE, PENETRON
39	WATERPROOFING MEMBRANE (SBS/HDPE/POLYUREA/CEMENTITIOUS ETC.)	SIKA, GRACE, SOPREMA
40	WATERPROOFING CUM PU FOAM INSULATION	SIKA, GRACE, SOPREMA
41	VERMICULLITE TREATMENT	NEWKEM, GRACE, SOPREMA
42	HOLLOW METAL PRESSED DOORS (METAL DOORS)	NAVAIR, TATA PRAVESH, SHAKTI HORMANN
43	ROLLER BLIND	VISTA, MAC, HUNTER DOUGLUS
44	PRELAMINATED PARTICLE BOARD	MERINO, CENTURY PLY, GREENLAM
45	HYDRAULIC DOOR CLOSER, FLOOR SPRING, DOOR AUTOMATION	DORMA, GEZE, HAFELE, HORMANN
46	HARDWARES FOR FIRE RATED DOORS	HAFELE, DORMA, GEZE, HORMANN

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
47	HARDWARE FOR FURNITURE ITEMS	HETTICH, EBCO, HAFELE
48	STAINLESS STEEL FITTINGS/HARDWARE FOR WOODEN/METAL/GLAZED/STEEL DOOR & WINDOWS	HAFELE, DORMA, GEZE, HORMANN
49	WIRE MESH	STERLING ENTERPRISES, MICROMESH, HARVER STANDARD, INDIA WIRE MESH
50	ADHESIVE TAPE	3M, NORTON, BOPD, TESA
51	HIGH PERFORMANCE EPOXY BASED RESIN ANCHOR SYSTEM	FOSROC, CICO, SIKA
52	EPOXY MORTAR	FOSROC, SIKA, MYK LATICRETE, CICO
53	NUTS, BOLTS & SCREWS	GKW, KUNDAN, PRIYA, ATUL
54	ALUMINIUM SECTIONS FOR DOORS & WINDOWS ETC.	JINDAL, HINDALCO, BHORUKA
55	HARDWARE FITTINGS FOR ALUMINIUM WINDOWS & DOORS	GEZE, HAFELE, DORMA
56	MS SECTIONS (PIPES, BOXES CHANNELS)	JINDAL HISAR, TATA, SURYA
57	S.S. MATERIAL/HADRAILS/RAILINGS	JINDAL STAINLESS STEEL LTD., TATA STEEL, SAIL,
58	WALL PUTTY	JK, BIRLA, ASAIN PAINT
59	FLOOR HARDENER	PIDILITE, FOSROC, SIKA, CICO
60	POLYSULPHIDE SEALANT	PIDILITE, ARDEX ENDURA, WEBER, BASF.
61	EXPANSION JOINT	MIGUA, CS, CAMEO
62	WATERPROOFING COMPOUND	FOSROC, SIKA, PIDILITE
63	ADMIXTURES/CURING COUMPOUND	FOSROC, SIKA, ATPL, KUNALCOM CHEM, ASIAN PAINT, PIDILITE
64	REFLECTIVE GLASS, TINTED GLASS, HIGH PERFORMANCE GLASS, LACQUERED GLASS	SAINT GOBAIN, ASAHI (INDIA), PILKINGTON
65	LOOKING GLASS / MIRROR	ATUL, MODI GUARD, GOLDEN FISH
66	HIGH PERFORMANCE GLASS	SAINT GOBAIN, ASAHI, PILKINGTON
67	METAL/ALUMINUM FALSE CEILING	SAINT GOBAIN, HUNTER DOUGLUS, ARMSTRONG
68	AAC BLOCK	AEROCON, JINDAL BLOCK, MODCRETE, FINECRETE
69	AAC BLOCK ADHESIVE	ARDEX ENDURA, PIDILITE, WEBER
70	HIGH PRESSURE LAMINATE INTERIOR/EXTERIOR GRADE	MERINO, FUNDERMAX, GREENLAM
71	UPVC WINDOWS	FENESTA, ALUPLAST, KOENMERLING
72	WALL GUARD, HAND RAIL, CORNER GUARD	CONSTRUCTION SPECIALITIES / GRADUS INPROCORP INDIA PVT.

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
		LTD./WINDOWTECH
73	SOLID ACRYLIC SURFACE	MERINO, LG, GRANIUM, SAMSUNG-STARON
74	VINYL / CONDUCTIVE FLOORING, DADO SKIRTING	FORBO, TARAKETT, ARMSTRONG, GERFLOOR
75	CALCIUM SILICATE TILES FALSE CEILING	AEROLITE, RAMCO, HILUX
76	FIRE CHECK DOORS (METAL/ROLLING/GLAZED)	NAVAIR, TATA PRAVESH, SHAKTI HORMANN
77	FIRE CURTAIN	ORIENT, PACIFIC, KENT, NECO
78	LEAD LINED DOOR	NAVAIR, SHAKTI HORMANN, METAFLEX, RESPONSIVE
79	FIRE RESISTANT GLASS	SAINT GOBAIN, ASAHI, PILKINGTON
80	ALUMINIUM GLAZED DOORS/WINDOWS	HINDALCO, SHAKTI HORMANN, GLAZE TECHNO, SARLA
81	POLYESTER POWDER COATING/ PVDF COATING	JOTUN, AKZONOBEL, ASIAN PPG, NIPPON
82	GLASS PROCESSOR FOR MAKING DGU/TOUGHENING	AIS, ART N GLASS, GSC, KAENAL GLASS, SAINT GOBAIN
83	PVB/ SGP LAMINATE FILM, SENTRY FILM	DUPONT, SAFLEX, EASTMAN, LG, 3M
84	ACOUSTIC SEAL / DOOR SEAL	LORIENT, RAVEN, DORMA, 3M, HAFELE,
85	PAINT AND PRIMER FOR FIRE CHECK DOOR.	VIPER, BERGER, NULLIFIRE
86	INTUMESCENT FIRE / SMOKESEAL	ASTRO FLAME, RAVEN, SEALZ, LORIENT
87	CALCIUM SILICATE BOARD FOR FIRE DOOR	PROMOTECH, PROMINA, RAMCO
88	FRP DOOR & FRAMES	FIBREWAYS, JAISHREE, FIBRE TECHNO, BHATT FRP, JAYNA
89	FLY ASH BRICKS	POWERBRICKS, PAUBHARA, YBW
90	INSULATION	UP TWIGA, LLOYD, ROXUL ROCKWOOL, ROCKWOOLINDIA
91	ANTI BACTERIAL PAINT	JOTUN/LIQUIDE PLASTIC /CONSTRUCTION SPECIALITY
92	GRAPHIC FILM	3M, AVERY DENNISON
93	GRC/ FRP	BIRLA WHITE, UNISTONE, SANDERSON, SHENISHA CORPORATION
94	PLASTER OF PARIS	JK, BIRLA, SAKARNI, ULTRATECH
95	MR BOARD	SAINT GOBAIN, USG BORAL, ARMSTRONG

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
96	MINERAL FIBRE SUSPENDED CEILING SYSTEM	SAINT GOBAIN, USG BORAL, ARMSTRONG, KNAUF AMF
97	CURTAIN TRACK AND CURTAIN FABRIC	WINDOWTECH, DECOREX, MEDFRESHE, RESPONSIVE
98	POLYMER MODIFIED ADHESIVE	ULTRATECH, BALL ENDURA, PIDILITE, WEVER
99	ANTI BACTERIAL AND ANTI SKID VITRIFIED TILES	SOMANY, SIMPOLO, KAJARIA, JOHNSON, RAK
100	POLYCARBONATE SHEET	DANPALON, SOLALITE, DPI SYSTEM, EVERLITE, CPI
101	GI PIPES	JINDAL, PRAKASH SURYA
102	GI FITTINGS	UNIK, KS, ICS
103	CPVC PIPES	ASTRAL, PRINCE, SFMC
104	HDPE PIPES	SUPREME, FINOLEX, ASTRAL, RELIANCE, SMARTFLOW
105	CC (SPUN) IRON PIPE	NECO, SKF, HIF
106	CCI SOIL, WASTE, VENT PIPES & FITTINGS	NECO, SKF, HIF
107	C.P. BRASS FITTING	JAQUAR, ROCA, KOHLER
108	SS SINK	NILKANTH, NIRALI, JAYNA
109	C.P. BRASS BATHROOM ACESSORIES / FITTINGS	JAQUAR, ROCA, KOHLER
110	GLASS SHOWER PARTITION	DORMA, HAFELE, GEZE
111	SANITARY WARE (URINAL, WASH BASIN, WC ETC.)	JAQUAR, GROHE, KOHLER, HINDWARE
112	GLASS MOSAIC TILE	ITALIA, CORAL, KAJARIA
113	LIQUID SOAP DISPENSER	EURONICS, TOSHI, UTEC, DOLPHY
114	HAND DRIER	EURONICS, TOSHI, UTEC, DOLPHY
115	AROMA DISPENSER	EURONICS, TOSHI, UTEC, DOLPHY
116	SHOE SHINNING MACHINE	EURONICS, TOSHI, UTEC, DOLPHY
117	TISSUE DISPENSER WITH TRASH	EURONICS, TOSHI, UTEC, DOLPHY
118	HAND TOWEL DISPENSER	EURONICS, TOSHI, UTEC, DOLPHY
119	NITRILE RUBBER INSULATION	ARMACELL, K-FLEX, A-FLEX, SUPREME
120	FAÇADE AND WINDOW SYSTEM	SCHUCO, ALUK, REYNAERS, GUTMANN
121	FIRE STOP IN CURTAIN WALL SYSTEM	HILTI, 3M, FISCHER, LORIENT
122	POP OUT VENT FOR FAÇADE AND SYSTEM WINDOW HARDWARE	COTSWOLD, SCHUCO, ALUK, REYNAERS
123	ALUMINIUM OPERABLE LOUVER	TECHNAL, DOMAL, YOGI GLAZE, SCHUCO
124	AIR TRANSFER GRILL	RUSKIN, SYSTEM AIR, TROX, TREMCO

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
125	POLYURETHANE CONCRETE FLOORING, EPOXY FLOORING, SELF-LEVELLING FLOORING	ARDEX ENDURA, SIKA, MAPEI, SAINT GOBAIN - WEBER
126	ENGINEERED WOODEN FLOORING AND SKIRTING	MIKASA (GREENLAM), TARKETT, HAVWOODS, PARADOR (HIL), PERGO, KAHRS
127	RAISED/ FALSE ACCESS FLOORING SYSTEM	LINDNER, UNIFLOOR, TANKARIA, FLEXI FLOOR
128	SOLID SURFACE (CORIAN)	DUPONT, LG, STARON-SAMSUNG, LUXOR (DURLAX)
129	CAR DECK FLOORING SYSTEM	MAPEI, SAINT GOBAIN – WEBER, MYK ARMENT
130	ENGINEERED MARBLE	HR JOHNSON, KALINGA STONE, NITCO, QUASTONE
131	RUBBERISED PAVERS	SUNFLEX, FLOOR GUARD, BORON RUBBERS
132	COLOUR HARDENER	SIKA, FOSROC, PIDILITE
133	IPE WOOD	HKS FLOORING, INDIANA, RESHAWOOD
134	SYNTHETIC THATCH ROOFING	PALMEX, WINROYAL, SYNTHETIC THATCH
135	ASPHALT CEMENT SHINGLES	TAPCO, CERTAINTEED, MALARKEY
136	STRETCH MEMBRANE / TENSILE FABRIC	SERGE FERRARI, CHUKOH, MEHLER, VERSAIDAG
137	STAMP CONCRETE PIGMENT / APPLICATOR	UNITED FLOORING, CONCRETE BY DESIGN, FLEX STONE
138	SS TACTILE	EMINENT, FERROTECH, SUNDARAM, JINDAL
139	BAMBOO DECKING, ROOFING & CLADDING	ECO GREEN FLOORING, EPITOME BAMBOOWOOD, LAMIWOOD
140	OUTDOOR SIGNAGES	3M, AVERY DENNISON, VEDAAANSHI SIGNS
141	ACOUSTIC PANELS	ARMSTRONG, USG BORAL, ANUTONE, ROCKWORTH,
142	C&D WASTE PRECAST ELEMENT	GM CONCRETE, ILFS
143	THERMOPLASTIC PAINT/ROAD MARKING PAINT	NEROLAC, ASIAN, SHALIMAR, BERGER, STP LTD
144	WEATHER/STRUCTURE SILICON SEALENT	WACKER, MCCOY, DOW CORNING
145	BACKER ROD	SUPREME/SYSTRANS
146	POLYSTRENE BOARD	SUPREME, DOW CORNING, TEXAS, PIDILITE
147	DUCTILE IRON PIPES	ELECTROSTEEL, KESORAM, TISCO
148	STAINLESS STEEL PIPES AND FITTINGS	VIEGA, JINDAL STAINLESS STEEL, J-PRESS

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
149	SLUICE VALVES	SANT, ADVANCE, AUDCO, ZOLOTO, KIRLOSKAR, LEADER
150	GATE / BALL VALVES	SANT, LEADER, ZOLOTO
151	ELECTROMAGNETIC FLOWMETER	ENDRESS HAUSER, KROHNE MARSHALL, NEXTENG ENVIRO PVT LTD, SEIMENS, ABB
152	CI/DI MANHOLE COVER	NECO, SKF, RIF, BIC
153	DWC PIPES	NOBLE POLYTEC, ALOM POLY EXTRUSIONS LTD., ASTRAL, ANEK INDUSTRIAL PLASTICS
154	DRAIN CHANNEL WITH SS SLOTTED GRATING	ACO, KESSEL, PRUTHA
155	WATER BASED MELAMINE POLISH	ASIAN, PIDILITE, DULUX
156	ALL FURNITURE ITEMS (CHAIRS / WORKSTATIONS/BEDS, STORAGE UNITS ETC.)	ROCKWORTH / STEELCASE / HERMAN MILLER/ HAWORTH
157	CARPET	SUPINOE/ MILLIKAN/ SHAW
158	IRRIGATION FITTINGS, VALVES AND OTHER ACCESSORIES	RAIN BIRD / NETAFIM / BERMAD / HUNTER / TORO
159	IRRIGATION PUMPS	LUBI / RAIN BIRD / GRUNDFOS
160	READY MIX CONCRETE	SHRI RAM READY MIX CONCRETE, NDCON, LAFARGE, AFCON, ULTRATECH

Schedule of Quantity

(Civil Work)

SCHEDULE OF QUANTITY

Name of work:- A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi. (SH: Civil work)

Sl. No.	Description	Qty.	Unit	Rate	Amount
1	Providing services of plumber having valid licence and experience with required T&P to attend day to day complaints related to water supply, sanitary works and drainage works in National Zoological Park (Residential, non-residential, enclosures and other areas) for 8 hours per day (9:00 AM to 5:00 PM duty) during the month except only Sunday and national holiday as per the direction of Engineer -In -Charge.	5.00	Man months	34957.75	1,74,789
2	Providing services of Carpenter having valid licence and experience with required T&P to attend day to day complaints related to Wood work/Aluminium work/Painting Works in National Zoological Park (Residential, non-residential, enclosure and other areas) for 8 hours per day (9:00 A M to 5:00 PM duty) during the month except only Sunday and national holiday as per the direction of Engineer -In -Charge.	25.00	Days	1223.90	30,598
3	Providing services of mason (average) having valid licence and experience with required T&P to attend day to day complaints related to mason Works in National Zoological Park (Residential, non-residential, enclosure and other areas) for 8 hours per day (9:00 A M to 5:00 PM duty)during the month except only Sunday and national holiday as per the direction of Engineer -In -Charge.	5.00	Man months	33389.80	1,66,949
4	Providing services of Welder having valid licence and experience with required T&P to attend day to day complaints related to welding Works in National Zoological Park (Residential, non-residential, enclosure and other areas) for 8 hours per day (9:00 A M to 5:00 PM duty)during the month except only Sunday and national holiday as per the directions of Engineer -In -Charge.	25.00	Days	1618.65	40,466
5	Providing services of helper for Mason & Plumber in National Zoological Park for 8 hours per day (9:00 A M to 5:00 PM duty) during the month except only Sunday and national holiday as per the directions of Engineer -In -Charge.	20.00	Man months	28686.05	5,73,721
6	Providing services of Sewerman having valid licence and experience with required T&P to attend day to day complaints related to cleaning of choked sewer lines / manholes / soil / waste pipes in National Zoological Park (Residential, non-residential, enclosure and other areas) for 8 hours per day (9:00 A M to 5:00 PM duty)	5.00	Man months	31821.90	1,59,110

	during the month except only Sunday and national holiday as per the directions of Engineer -In -Charge.				
7	Providing Services of store keeper / site supervisor/ Office attendant for maintaining the stores, issue of materials and supervision of work sites & workers attending the complaints etc. for 8 hours per day during the month except only Sunday and national holiday as per directions of Engineer In-charge.	5.00	Man months	31821.90	1,59,110
8	Providing services of Data Entry Operator with minimum Three (03) years experienced to assist for preparing PE, DE, NIT, Justification Statement, Extra and deviation items & having knowledge of M.S. office, excel, typing work in English & Hindi etc., tender uploading and opening, office record maintenance, filing of letters, note sheet, diary, dispatch, emails etc. during normal office working hours during the month except only Sunday and national holiday as per the directions of Engineer-in-Charge.	5.00	Man months	37054.75	1,85,274
9	Providing services of Sweeper/Cleaner in the office of CCU for duties of sweeping mopping and cleaning of floor / windows / doors / wall panelling etc. for 8 hours per day duty for all days during the month (during the month except Sundays and holidays) complete as per directions of Engineer in charge.	10.00	Man months	28686.00	2,86,860
	Total SUB HEAD I - Day to Day Maintenance			**:-**	**17,76,877**
	SUB HEAD II :- Supply of Material				
10	Supplying and stacking Stone aggregate 20 mm nominal size	4.00	Cum	1807.60	7,230
11	Supplying and stacking Stone aggregate 10 mm nominal size	4.00	Cum	1775.90	7,104
12	Supplying and stacking Coarse sand zone-III	4.00	Cum	1839.35	7,357
13	Supplying and stacking Fine sand (zone IV)	50.00	cum	1243.15	62,158
14	Supplying and stacking G.I pipe 15 mm dia	42.00	Metre	150.95	6,340
15	Supplying and stacking G.I pipe 20 mm dia	42.00	Metre	190.30	7,993
16	Supplying and stacking G.I pipe 25 mm dia	5.00	Metre	268.90	1,345
17	Supplying and stacking Cement OPC 43 grade.	2.50	M.T	6540.40	16,351
18	Supplying and stacking Brass bib cock 15 mm dia	6.00	each	818.20	4,909
19	Supplying and stacking Brass stop cock 15 mm dia	6.00	each	818.20	4,909
20	Supplying and stacking PTMT bib cock 15 mm dia	6.00	each	164.90	989
21	Supplying and stacking G.I. Union 15 mm nominal bore	13.00	each	83.70	1,088
22	Supplying and stacking G.I union 20 mm nominal bore.	13.00	each	145.90	1,897
23	Supplying and stacking Polyethylene water storage tank with cover and suitable locking arrangement	2000.00	per litre	8.25	16,500
24	Supplying and stacking Flexible (coil shaped) PVC waste pipe for sink and wash basin 32 mm	13.00	each	59.65	775

	dia with length not less than 700 mm i/c PVC waste fittings				
25	Supplying and stacking 15 mm dia Gunmetal gate valve with wheel	4.00	each	750.95	3,004
26	Supplying and stacking 20 mm dia Gunmetal gate valve with wheel	4.00	each	1056.65	4,227
27	Supplying and stacking 32 mm dia Gunmetal gate valve with wheel	4.00	each	2067.65	8,271
28	Supplying and stacking 40 mm dia Gunmetal gate valve with wheel	2.00	each	2610.55	5,221
29	Supplying and stacking Vitreous china flat back wash basin 630x450 mm	2.00	each	1012.25	2,025
30	Supplying and stacking Vitreous china orrisa type W.C. pan of size 580 mm	4.00	each	1712.50	6,850
31	Supplying and stacking Stainless steel kitchen sink - without drain board 470x420 mm bowl depth 178 mm	2.00	each	1613.55	3,227
32	Supplying and stacking Flushing Cistern P.V.C. 10 litre capacity (low level) (White) (with fittings, accessories and flush pipe)	6.00	each	1213.95	7,284
33	Supplying and stacking Coloured (other than black) solid P.V.C. seat in European W.C. pan	8.00	each	488.40	3,907
34	Supplying and stacking PTMT pillar cock	6.00	each	257.50	1,545
35	Supplying and stacking PTMT grating 100 mm dia	4.00	each	55.80	223
36	Supplying and stacking C.P. Brass Push Cock 15 mm	4.00	each	418.60	1,674
37	Supplying and stacking G.I. Nipple 15 mm dia				
37.1	Supplying and stacking 100 mm Long	4.00	Each	20.30	81
37.2	Supplying and stacking 150 mm Long	4.00	Each	30.45	122
38	Supplying and stacking G.I. Nipple 20 mm dia				
38.1	Supplying and stacking 50 mm Long	8.00	Each	12.70	102
38.2	Supplying and stacking 75 mm Long	8.00	Each	19.05	152
38.3	Supplying and stacking 100 mm Long	6.00	Each	25.35	152
38.4	Supplying and stacking 150 mm Long	4.00	Each	38.05	152
39	Supplying and stacking G.I. Nipple 25 mm dia				
39.1	Supplying and stacking 50 mm Long	13.00	Each	17.75	231
39.2	Supplying and stacking 75 mm Long	8.00	Each	26.65	213
39.3	Supplying and stacking 100 mm Long	6.00	Each	35.50	213
39.4	Supplying and stacking 150 mm Long	4.00	Each	53.30	213
40	Supplying and stacking C.P. bib cock 15 mm dia	21.00	each	923.45	19,392
41	Supplying and stacking C.P. Stop cock 15 mm dia	21.00	each	923.45	19,392
42	Supplying and stacking C.P. Gratings 100 mm dia	21.00	each	62.15	1,305
43	Supplying and stacking G.I. Tee 15 mm dia	12.00	each	53.30	640
44	Supplying and stacking G.I. Tee 20 mm dia	12.00	each	73.55	883
45	Supplying and stacking G.I. Tee 25 mm dia	12.00	each	102.75	1,233
46	Supplying and stacking G.I. Tee 32 mm dia	12.00	each	173.80	2,086
47	Supplying and stacking G.I. Elbow 15 mm dia	12.00	each	55.80	670
48	Supplying and stacking G.I. Elbow 20 mm dia	12.00	each	58.35	700

49	Supplying and stacking G.I. Elbow 25 mm dia	12.00	each	74.85	898
50	Supplying and stacking G.I. Elbow 32 mm dia	12.00	each	120.50	1,446
51	Supplying and stacking G.I. Reducer for 20 mm X 15 mm dia pipe	13.00	each	46.95	610
52	Supplying and stacking G.I. Reducer for 25 mm X 20 mm dia pipe	8.00	each	64.70	518
53	Supplying and stacking G.I. Reducer for 25 mm X 15 mm dia pipe	6.00	each	64.70	388
54	Supplying and stacking G.I. Reducer for 32 mm X 25 mm dia pipe	4.00	each	91.35	365
55	Supplying and stacking G.I. Reducer for 32 mm X 20 mm dia pipe	6.00	each	91.35	548
56	Supplying and stacking G.I. Reducer for 40 mm X 32 mm dia pipe	4.00	each	118.00	472
57	Supplying and stacking G.I. Reducer for 40 mm X 25 mm dia pipe	2.00	each	118.00	236
58	Supplying and stacking 15 mm nominal bore and 45 cm length PVC connection pipe with P.T.M.T. Nuts	25.00	each	76.10	1,903
59	Supplying and stacking Anodised Aluminium butt hinges 100x75x4 mm	20.00	each	52.00	1,040
60	Supplying and stacking Oxidised mild steel butt hinges 100x58x1.90 mm	20.00	each	12.20	244
61	Supplying and stacking Hydraulic door closer tubular type Aluminium section body	4.00	each	761.10	3,044
62	Supplying and stacking Anodised Aluminium Handles 125 mm with plate 175x32 mm	25.00	each	42.50	1063
63	Supplying and stacking Anodised Aluminium sliding door bolt 250x16 mm	12.00	each	164.90	1,979
64	Supplying and stacking Oxidised mild steel tower bolt (barrel type) 150x10 mm	21.00	each	38.05	799
65	Supplying and stacking Anodised Aluminium tower bolt (barrel type) 150x10 mm	21.00	each	26.65	560
66	Supplying and stacking Oxidised mild steel tower bolt (barrel type) 100x10 mm	21.00	each	40.60	853
67	Supplying and stacking Rectangular shape 600x450 mm precast R.C.C. manhole cover with frame - L.D. - 2.5	2.00	each	942.50	1,885
68	Supplying and stacking Precast R.C.C. grating with frame 500x450 mm horizontal grating	2.00	each	843.55	1,687
	Total SUB HEAD II :- Supply of Material			**:-**	**2,62,873**
	SUB HEAD (III) :- Misc. Civil Works, Painting and Road Work				
69	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth upto 50 m and lift up to 1.5 m, as directed by Engineer-in-Charge:				
69.1	All kinds of soil	50.00	Sqm	129.85	6,493
70	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.				
70.1	All kinds of soil.	90.00	Cum	260.30	23,427
71	Excavating trenches by mechinical / manual means of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, for all depth, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within alead of 50 m :				
71.1	All kinds of soil				
71.1.1	Pipes, cables etc. exceeding 80 mm dia. But not exceeding 300 mm dia	50.00	Mtr.	352.15	17,608
72	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lift.	90.00	cum	196.00	17,640
73	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
73.1	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources).	40.00	Cum.	7878.50	3,15,140
73.2	1:5:10 (1 cement : 5 coarse sand(zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources).	32.00	Cum	6518.60	2,08,595
74	Centering and shuttering including strutting, propping etc. and removal of form work for :				
74.1	Foundations, footings, bases for columns	450.00	sqm	392.15	1,76,468
75	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 leveling and dressing and finishing the top smooth.	100.00	sqm	749.30	74,930
76	Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but				

	excluding the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.				
76.1	All works upto plinth level :				
76.1.1	Concrete of M25 grade with minimum cement content of 300 kg /cum	479.00	cum	9439.05	45,21,305
77	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :				
77.1	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).	5.00	Cum.	9045.75	45,229
78	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. above plinth level up to floor five level, excluding cost of centering, shuttering, finishing and reinforcement:				
78.1	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)	5.00	Cum.	10852.95	54,265
79	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).	2.00	Cum.	11505.50	23,011
80	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.				
80.1	Hard drawn steel wire	50.00	kg	95.80	4,790
80.2	Thermo-Mechanically Treated bars of grade Fe-500D or more.	500.00	Kg.	107.85	53,925
81	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
81.1	Thermo-Mechanically Treated bars of grade Fe-500D or more.	500.00	Kg.	107.85	53,925
82	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in				

	foundation and plinth in:				
82.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	57.00	Cum.	7132.25	4,06,538
83	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
83.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	20.00	Cum.	9105.95	1,82,119
84	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.	5.00	Sqm.	1150.50	5,753
85	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 :				
85.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	9.00	Cum.	7311.25	65,801
86	Random rubble masonry with hard stone in superstructure above plinth level and upto floor five level, including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) at window sills, ceiling level and the like.				
86.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	10.00	Cum.	9275.45	92,755
87	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.				
87.1	Granite stone slab of colour black, Cherry/Ruby red				
87.1.1	Area of slab upto 0.50 sqm	5.00	sqm	5413.50	27,068
87.1.2	Area of slab over 0.50 sqm	5.00	sqm	5136.30	25,682
88	Providing and fixing cramps of required size & shape in RCC/ CC / Brick masonry backing with cement mortar 1:2 (1 cement :2 coarse sand), including drilling necessary hole in stones and embedding the cramp in the hole (fastener to be paid separately).				
88.1	Stainless steel cramps	2.00	kg	714.40	1,429
89	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per	506.00	Sqm.	1267.95	6,41,583

	sqm, including pointing in white cement mixed with pigment of matching shade complete.				
90	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).				
90.1	Kiln seasoned and chemically treated hollock wood	0.50	cum	83378.05	41,689
91	Providing and fixing glazed shutters for doors, windows and clerestory windows using 4 mm thick float glass panes (weight not less than 10 kg per sqm) fixing with ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws.				
91.1	Kiln seasoned and chemically treated hollock wood				
91.1.1	30 mm thick	18.00	sqm	3305.20	59,494
92	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
92.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	10.00	sqm	3473.85	34,739
93	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				
93.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	16.00	sqm	2392.65	38,282
94	Providing and fixing Bamboo jaffery/ fencing consisting of superior quality 25 mm dia (Average) half cut bamboo placed vertically and fixed together with three numbers horizontal running members of hollock wood in scantling of section 50X25 mm, fixed with nails and G.I wire on existing support complete as per direction of Engineer-in-charge.	475.00	Sqm	689.40	3,27,465
95	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.	29.00	Mtr	570.95	16,558

96	Providing and fixing to existing door frames.				
96.1	30 mm thick Glass Fibre Reinforced Plastic (FRP) panelled door shutter of required colour and approved brand and manufacture, made with fire - retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate for forming hollow rails and styles, with wooden frame and suitable blocks of seasoned wood inside at required places for fixing of fittings, cast monolithically with 5 mm thick FRP laminate for panels conforming to IS: 14856, including fixing to frames.	15.00	Sqm	3720.75	55,811
97	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	1000.00	Kg.	133.70	133,700
98	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.				
98.1	Using M.S. angels 40x40x6 mm for diagonal braces	8.00	sqm	5804.35	46,435
99	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.				
99.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	75.00	kg	141.70	10,628
100	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.				
100.1	Hot finished welded type tubes	500.00	kg	194.40	97,200
101	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.				
101.1	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	490.00	Kg.	172.60	84,574
102	Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm2), counter sunk head, comprising of 10 mm dia polyamide PA 6 grade sleeve, including drilling of hole in frame, concrete/ masonry, etc. as per direction of Engineer-in-charge.				
102.1	10 x 80 mm	50.00	Each	137.65	6,883

103	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-incharge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	5764.00	Kg.	772.40	44,52,114
104	Providing & fixing fly proof wire gauze to windows, clerestory windows & doors with M.S. Flat 15x3 mm and nuts & bolts complete.				
104.1	Stainless steel (grade 304) wire gauze of 0.5 mm dia wire and 1.4 mm aperture on both sides	15.00	Sqm.	1133.55	17,003
105	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with :				
105.1	4.0 mm thick glass panes	28.00	sqm	1064.65	29,810
106	62 mm thick cement concrete flooring with concrete hardener topping, under layer 50 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and top layer 12mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate, 6mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacture's specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.	30.00	Sqm.	1056.15	31,685
107	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).				
107.1	Light shade pigment using white cement	30.00	Sqm.	1402.00	42,060
108	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :				
108.1	25 mm thick	291.00	Sqm.	1948.25	5,66,941
109	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	29.00	Sqm.	2354.70	68,286
110	40 mm thick fine dressed stone flooring over 20 mm (average) thick base of cement mortar 1:5 (1				

	cement : 5 coarse sand) with joints finished flush.				
110.1	Red sand stone	50.00	sqm	1280.10	64,005
111	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), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	56.00	Sqm.	1096.55	61,407
112	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm 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., complete.				
112.1	Size of Tile 600x600 mm	42.00	Sqm.	1553.45	65,245
113	Crazy ceramic tile flooring, with under layer 12 mm thick cement mortar 1:4 (1 cement: 4 coarse sand), with joints not exceeding 5 mm, including filling the gaps with ordinary cement mixture & mixing with synthetic polyester fibre, triangular in shape having specific gravity of 1.34 to 1.40, cross section size ranging from 10 to 40 micron & length upto 6 mm , mixing fibre @ 125 grams per 50 kg of cement in cement mortar, including providing and mixing water proofing material in mortar @ 1 kg per 50 kg of cement, all complete as per direction of Engineer-in-charge.	150.00	sqm	954.15	1,43,123
114	Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-Charge) of total coated thickness 0.50mm (base metal of minimum 0.45mm thickness with total coating thickness of 0.05mm) with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	50.00	sqm	738.65	36,933
115	12 mm cement plaster of mix :				
115.1	1:4 (1 cement: 4 coarse sand)	475.00	Sqm.	357.35	1,69,741

116	15 mm cement plaster on rough side of single or half brick wall of mix:				
116.1	1:4 (1 cement: 4 coarse sand)	430.00	Sqm.	411.75	1,77,053
117	12 mm cement plaster finished with a floating coat of neat cement of mix :				
117.1	1:4 (1 cement: 4 fine sand)	500.00	sqm	425.55	2,12,775
118	15 mm cement plaster on rough side of single or half brick wall finished with a floating coat of neat cement of mix :				
118.1	1:4 (1 cement: 4 fine sand)	505.00	sqm	477.90	2,41,340
119	Pointing on stone work with cement mortar 1:3 (1 cement : 3 fine sand) :				
119.1	Flush/ Ruled pointing	100.00	Sqm.	385.40	38,540
119.2	Raised and cut pointing	10.00	sqm	701.05	7,011
120	Distempering with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gram/litre, of approved manufacturer and of required shade and colour all complete to achieve even shade and colour :				
120.1	New work (two or more coats) over and including water thinnable priming coat with cement primer having VOC content less than 50 gram/litre	600.00	Sqm.	185.65	1,11,390
121	Finishing walls with Acrylic Smooth exterior paint of required shade :				
121.1	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 0.90 kg/10 sqm).	2600.00	Sqm	160.60	4,17,560
122	Applying priming coat: With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works	500.00	Sqm.	67.40	33,700
123	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade.				
123.1	Two or more coats on new work	5735.00	Sqm.	155.90	8,94,087
124	Varnishing with varnish of approved brand and manufacture:				
124.1	Two or more coats of glue sizing with copal varnish over an under coat of flatting varnish.	114.00	Sqm	236.10	26,915
125	Polishing on wood work with ready mixed wax polish of approved brand and manufacture :				
125.1	New work	50.00	sqm	197.65	9,883
126	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.	600.00	Sqm.	156.05	93,630
127	Distempering with 1st quality acrylic distemper (ready mixed) having VOC (Volatile Organic Compound) content less than 50 gram/ litre, of approved brand and manufacturer including applying additional coats wherever required to achieve even shade and colour.				
127.1	Old work (one or more coats)	600.00	sqm	62.70	37,620

128	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
128.1	Two coats	500.00	sqm	142.80	71,400
129	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.				
129.1	With ready mixed pink or grey primer on wood work (hard and soft wood) having VOC content less than 50 grams/ litre.	1235.00	sqm	70.35	86,882
130	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.	600.00	Sqm.	25.15	15,090
131	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : One or more coats on old work	6000.00	Sqm.	102.80	6,16,800
132	Finishing walls with Acrylic Smooth exterior paint of required shade :				
132.1	Old work (One or more coat applied @ 0.90 ltr/10 sqm).	2600.00	sqm	80.65	2,09,690
133	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, all complete as per direction of Engineer-in-Charge.				
133.1	With cement mortar 1:4 (1cement: 4 coarse sand)	50.00	Sqm.	560.50	28,025
134	Pumping out water caused by springs, tidal or river seepage, broken water mains or drains and the like.	50.00	kilo litre	231.05	11,553
135	Cleaning of terrace/loft water storage tank (inside surface area) upto 2000 litre capacity at all heights with coconut brushes, duster etc., removal of silt, rubbish from the tank and cleaning the tank with fresh water disinfecting with bleaching powder @ 0.5gm per litre capacity of tank including marking the date of cleaning on the side of tank body with the help of stencil and paint and disposing of malba all complete as per direction of Engineer-in-Charge. (The old date already written on tank should be removed with paint remover or black paint and if date is not written with the stencil or old date is not removed deduction will be made @ Rs. 0.10 per litre) (if during cleaning any GI fittings or ball cock is damaged that is to be repaired by contractor at his own cost and nothing extra will be paid on this account).	35000.00	Ltr.	0.50	17,500

136	Cleaning of underground sump, Over Head R.C.C. Tank (independent staging) including disposal of slit and rubbish, all as per direction of Engineer-in-Charge. The cleaning shall consist following operations:- (i) Tank shall be emptied of water by pumping & bottom shall be cleaned of silt and other deposits. (ii) Entire surface area of the sump shall then scrubbed thoroughly with wire brush etc. and pressure washed with water. (iii) Chlorination of RCC internal surface by liquid chlorine. (iv) The treated surface shall be dried using air jetting and all loose particles shall be removal from the surface. (v) Finally the surface shall be treated with ultraviolet radiation etc. as per direction of Engineer-in-Charge.	60.00	Sqm.	84.85	5,091
137	Disconnecting damaged overhead/terrace PVC water storage tank of any size from water supply line and removing from the terrace including shifting at ground level as per direction of Engineer-in-charge.	2.00	Each	433.75	0,868
138	Taking out existing wooden door shutter, repair by cutting, painting etc. and refixing of repaired door shutters to existing door frames, including replacement of hinges with screws, etc. as required, all complete as per the direction of the Engineer-in-charge.	20.00	Each	429.10	8,582
139	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge				
139.1	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	213.00	Cum.	2434.25	5,18,495
140	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.	1.00	cum	3551.25	3,551
141	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.				
141.1	In cement mortar	5.00	Cum.	2060.20	10,301
142	Demolishing stone rubble masonry 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 :				
142.1	In cement mortar	7.00	Cum.	2458.95	17,213
143	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :				
143.1	Of area 3 sq. metres and below	7.00	each	367.20	2,570

144	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50 metres lead.	300.00	Kg	5.65	1,695
145	Dismantling expanded metal or I.R.C. fabrics with necessary battens and beading including stacking the serviceable material within 50 metres lead.	100.00	sqm	75.80	7,580
146	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.	300.00	cum	263.95	79,185
147	Supplying and stacking at site: Good earth	500.00	Cum	775.50	3,87,750
148	Providing and applying tack coat using hot straight run bitumen of grade VG - 10, including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications				
148.1	On bituminous surface @ 0.50 Kg / sqm	2400.00	Sqm	48.20	1,15,680
149	Providing and laying Bituminous concrete using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equiped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-Charge.				
149.1	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	120.00	cum	12126.20	14,55,144
150	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured to calculate volume for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	10.00	cum	10117.60	1,01,176
151	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 50x50 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete				

	as per the direction of Engineer-in-charge.				
151.1	Made of G.I. wire of dia 4 mm	325.00	Sqm.	1017.80	3,30,785
152	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 25x25 mm made of G.I. wire of dia 3 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge.	100.00	Sqm.	1149.25	1,14,925
153	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.	50.00	sqm	131.75	6,588
154	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways 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 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. complete all as per direction of Engineer-in-Charge.				
154.1	60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.	200.00	sqm	1045.65	2,09,130
154.2	80 mm thick C.C. paver block of M-35 grade with approved colour design and pattern.	100.00	sqm	1091.50	1,09,150
155	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required:				
155.1	W.C. pan with ISI marked white solid plastic seat and lid	2.00	Each	8006.60	16,013
156	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required:				
156.1	Kitchen sink with drain board				
156.1.1	510x1040 mm bowl depth 250 mm	1.00	Each	6945.60	6,946
156.2	Kitchen sink without drain board				
156.2.1	610x510 mm bowl depth 200 mm.	3.00	Each	4940.80	14,822

157	Providing and fixing P.V.C. low level flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete.				
157.1	10 litre capacity - White	2.00	each	1190.65	2,381
158	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
158.1	Semi rigid pipe				
158.1.1	32 mm dia	20.00	Each	103.90	2,078
159	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 :				
159.1	Rectangular shape 453x357 mm	1.00	Each	1361.80	1,362
160	Providing and fixing toilet paper holder :				
160.1	C.P. brass	5.00	Each	803.70	4,019
161	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
	Internal work - Exposed on wall				
161.1	15 mm dia nominal bore	48.00	metre	366.40	17,587
161.2	20 mm dia nominal bore	48.00	metre	437.30	20,990
161.3	25 mm dia nominal bore	18.00	metre	551.70	9,931
162	Providing and fixing G.I. Pipes complete with G.I. fittings and clamps, i/c making good the walls etc. concealed pipe, including painting with anti corrosive bitumastic paint, cutting chases and making good the wall :				
162.1	15 mm dia nominal bore	30.00	metre	580.45	17,414
163	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.				
	External work				
163.1	40 mm dia nominal bore	48.00	metre	617.05	29,618
163.2	80 mm dia nominal bore	18.00	metre	1041.70	18,751
164	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
164.1	200 mm diameter	50.00	metre	970.35	48,518
165	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 :				
165.1	300 mm dia. R.C.C. pipe	50.00	metre	994.30	49,715
166	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 :				
166.1	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) :				
166.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2.00	Each	12770.55	25,541
167	Constructing brick masonry road gully chamber 45x45x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) with precast R.C.C. vertical grating complete as per standard design :				
167.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5.	2.00	Each	6889.80	13,780
168	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) :				
168.1	For fixed portion				
168.1.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	31.00	kg	530.90	16,458
168.2	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)				
168.2.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	52.00	kg	634.45	32,991
169	Providing and fixing aluminium round shape handle of outer dia 100 mm with SS screws etc. complete as per direction of Engineer-in-charge				
169.1	Powder coated minimum thickness 50 micron aluminium	5.00	each	109.30	547
170	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying: (a) after surface preparation, first layer of slurry				

	of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. (b) laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm. (c) third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around. (d) fourth and final layer of brick tiling with cement mortar (which will be paid for separately.				
170.1	For the purpose of measurement the entire treated surface will be measured.	150.00	sqm	688.90	1,03,335
171	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595mm of approved texture, design and patterns as per CPWD Specification 2019, 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 24x38 mm of length 3000 mm, cross - T of size 24x32 mm of length 1200 mm and secondary intermediate cross-T of size 24x32 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. 12x50 mm long dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 76x25x25x1.6 mm fixed with grid and Z cleat of size 25x37x25x1.6mm thick with precut hole on both 25mm flange to pierce into 12x50mm or even bigger size dash fastener if require, fixed with Glavanised iron perimeter wall angle or size 24x24x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450mm center to center and 40 mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.				
171.1	With 15 mm thick Tegular edged light weight calcium silicate false ceiling tiles	30.00	sqm	2207.00	66,210
	Total (DSR Items)			**:-**	2,11,10,200
	Add Cost Index 3% on DSR items			**:-**	6,33,306
	Total			**:-**	2,17,43,506
	Modified Estimated Cost after using correction factor on DSR 2023 on Account of GST @ 0.973 Only DSR 2023 Items			**:-**	2,11,56,431

172	Supply of Hydraulic Excavator (3D) with operator and fuel for 8.00 Hrs in a day as per requirement of department either Day or Night as per requirement/direction of Engineer-in-Charge.	25.00	Days	9058.00	2,26,450
173	Supply of Suction Jetting machine with operator and fuel for 8.00 Hrs in a day as per requirement of department either Day or Night as per requirement/direction of Engineer-in-Charge.	6.00	Days	15527.95	93,168
174	Stone work (machine cut edges) for wall lining etc. (veneer work) upto 1.2 metre height, backing filled with a grout of average 12 mm thick cement mortar 1:3 (1 cement : 3 coarse sand) including pointing in white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade.				
174.1	Red sand stone - exposed face fine dressed with rough backing.				
174.1.1	30 mm thick	10.00	Sqm	3017.60	30,176
	SUB HEAD (III) :- Misc. Civil Work, Painting and Road Work			:-	2,15,06,225
	Total SUB HEAD I - Day to Day Maintenance			**:-**	**17,76,877**
	Total SUB HEAD II :- Supply of Material			**:-**	**2,62,873**
	SUB HEAD (III) :- Misc. Civil Work, Painting and Road Work			**:-**	**2,15,06,225**
	Total			**:-**	**2,35,45,975**

GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION OF ROAD WORK, WATER SUPPLY, SANITARY INSTALLATIONS AND DRAINAGE WORKS

The agreement made this..... day of ..... (Two Thousand----- only) ..... between .....S/o .....(hereinafter called the GUARANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part)

WHEREAS THIS agreement is supplementary to a contract (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 remove all the defects in ……(name of specialized work) in said contract completely.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain intact without any defect for ……. (No. of years) from the date of completion of the work.

NOW THE GUARANTOR hereby guarantee that the works executed by him will remain intact and full functional without any defects of any kind for …….(No. of years) to be reckoned from the date of completion of work under the contract.

The decision of the Engineer-in-Charge with regard to nature and cause of defects shall be final.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect being found in the ……..(name of specialized works) 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 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 risk and cost. The decision of the Engineer -in-charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all defects or commits breach there under, then the Guarantor will indemnify Engineer-in-Charge and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and / or cost incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

INWITNESS WHERE OF 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 BEHALF OF THE PRESIDENT OF INDIA BY..... in the presence of

1. ..... 2. .....

PART-C

ADDITIONAL SPECIFICATIONS, PREFERRED MAKES OF MATERIALS AND SCHEDULE OF QUANTITIES OF THE ELECTRICAL& MECHANCIAL WORK.

ADDITIONAL SPECIFICATIONS FOR ELECTRICAL AND MECHANICALWORKS

1.0 GENERAL

1.1 The work shall be carried out strictly in accordance with CPWD specifications for Electrical Works 2023 (Internal) and 2023 (External) as amended up to date and in accordance with Indian Electricity Rules, 1956, Indian Electricity Act, 1910 as amended up to date and as per instructions of the Engineer-in-Charge.

1.2 All hardware materials such as MS nuts / bolts / screws / washers etc, to be used in the work shall be zinc coated / cadmium plated.

1.3 All conduits shall be provided with G I fish wire for wiring, failing which recovery shall be made @ Rs. 10 per metre of conduit. While laying conduit, suitable junction boxes shall be provided wherever required for pulling the wires. Nothing extra shall be paid for fish wire and junction boxes.

1.4 The contractor shall ensure that chase cutting machine is used for cutting chases for laying of conduit.

1.5 Flexible conduits may be used only for interconnection between point and fitting in false ceiling.

1.6 Telescopic rigid conduit may be used at expansion joints.

1.7 The work is to be carried out as per approved drawings. The contractor should study the drawings issued by the engineer-in-charge and modifications, if any, required to comply with the specifications, standards, and statutory rules shall be incorporated and got approved form the engineer-in-charge before execution.

1.8 All chases, holes, recesses etc. for conduits and other allied work shall be made good to the original finish.

1.9 **MAINTENANCE SCHEDULE FOR INTERNAL EI:**

SI No.	Activity	Periodicity
1	Inspect the installation and rectifying the fault, i/c thimbling, tighting of loose connections, replacement of burnt part in DB's, panels, starters, switches, fittings etc.	Monthly
2	Check system loading and taking readings for earth insulations of all the panels and feeder pillars.	Quarterly
3	Clean of light fitting and ceiling fans/wall fans/exhaust fans	Quarterly
4	Conduct insulation and earth tests	Quarterly
5	Conduct Polarity test	Quarterly

@ General Specification for Electrical Works Part-1 Internal 2023.

1.10 The contractor shall carry out the inspection of electrical installation which is intended primarily from fire safety considerations. Following points need to be observed as part of inspection, and corrective measures as necessary should be taken immediately, including coordination with the client or Departments concerned official, as may be required:

a) Heating, burning, sparking at any of the boards (SDBs as well as main boards) may be checked. Balancing of the unbalanced load causing residual current in the neutral may be carried out.

b) No temporary wiring shall exist anywhere in the building as far as possible.

c) There should not be any misuse of socket outlets, such as connecting power load to light socket, connection of multiple loads to one socket, use of heaters in record room, library etc. in such cases of additional demands of outlet, these should be provided early, after taking approval of the competent authority.

d) Spaces in front of DB's and sockets should be free from any kind of storage of files / papers etc.

e) While cleaning fittings and fans, the fixing/suspending arrangements should also be checked and attended to as necessary. Care should be taken that the alignment is not disturbed.

f) In the case of cleaning of ceiling fans, remove the blades, and wash the same with detergent, without causing any deformation of blade angle. Check the shackle and replace if damaged. Check that down rod is fully screwed upto the last thread on both ends and that threads are not loose. If so required, replace with new down rod of the same size, thickness and length of threading (not less than 20mm). Check split pins and replace if any strain deformation or damage is observed. If any other system of suspension had been adopted, check the soundness of the same and tighten as necessary. Fix fan blades tightly to the body, Operate the fan at different speeds; to ensure no wobbling/noise.

g) The fan should be removed from the hook and proper lubrication should be done by removing the old grease after cleaning the bearing and re-installing the fan, the suspension board will be well tightened.

1.11 Insulation test should be done during monsoon season, as per clause 16.2 of CPWD specifications of electrical works part I Internal 2023.

1.12 Earth continuity test and earth electrode resistance test should be conducted during summer season, as per clauses 16.4 and 16.5 of CPWD specifications or electrical works part-I internal 2023.

1.13 Record the test results giving identification references. If results are not satisfactory in any part of the installation, reason should be found and corrective measures be taken accordingly.

PREFERRED MAKES OF MATERIALS FOR ELECTRICAL & MECHANICAL ITEMS

All materials and Equipment shall conform to the relevant standards and shall be of approved make and design. The list of preferred makes for various equipments/materials etc. is given below. Any item missed out from the list should be got approved by the Engineer in Charge before delivery/ installation. Engineer-in-charge may, for any item, in the interest of work allow use of any other make/brand in addition to the makes/brands mentioned in the preferred makes lists subject to its satisfactory quality and on proper grounds like non-availability of preferred makes/brands in the market etc. In such case, cost adjustment shall be made if the make/brand actually used is priced lower than the lowest priced brands of that item in the preferred makes list. However, nothing extra shall be paid if actually used brand/make is of higher price than the highest priced brand/make in the list of preferred makes.

SL. NO.	ITEMS	MAKES
	ELECTRICAL INSTALLATIONS	
1	PVC INSULATED FRLS COPPER CONDUCTOR SINGLE/ MULTI CORE CABLE	POLYCAB/ANCHOR/KEI/ HAVELLS/ RR KABEL/ FINOLEX
2	MS CONDUIT AND ACCESSORIES	AKG/BEC/ NIC
3	PVC CONDUIT AND ACCESSORIES	BEC/ PRECISION/ NORPACK/ANCHOR
4	MODULAR/ PIANO SWITCH & SOCKET/ USB CHARGER/ TELEPHONE SOCKET/ TV SOCKET/ FAN REGULATOR/ BELL PUSH/	LEGRAND/ SCHNEIDER / MK / ABB /PANASONIC/ ANCHOR
5	ANCHOR FASTENER	HILTI/ 3M/ FISCHER
6	UPVC/ HDPE PIPE/DWC	DURALINE/ REX/ TIRUPATI
7	GI Box	MK/ SCHNEIDER/ LEGRAND
8	COMPRESSOR	VOLTAS/ BLUESTAR/ USHA
9	GI PIPE	TATA/ JINDAL (HISAR)/ JINDAL (STAR)
10	1.1 KV GRADE XLPE UG/SUBMERSIBLE CABLE	POLYCAB/ANCHOR/ KEI/ HAVELLS/ RR KABEL/ FINOLEX
11	MCCB/ DB/ MCB/ RCCB/ ISOLATOR	SCHNEIDER/ HAGER/ SIEMENS/ ABB/ L&T/ HAVELLS
12	LED FITTINGS/ STREET LIGHT FITTINGS/ FLOOD LIGHT FITTINGS	HAVELLS/ PHILLIPS/ WIPRO/ LT/ REGENT
13	LED DRIVER	AS PER THE LED FITTINGS
14	CEILIGN FAN/ WALL FAN/ AIR CIRCULATOR/ EXHAUST FAN	HAVELLS/ USHA/ ORIENT/ CROMPTON
15	POLE BOX	SINTEX/ HENSEL
16	CALL BELL/ BUZZER	ANCHOR/ MK/ KINJAL

Note: - Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi reserves the right to add or delete any materials and Brands in the list of approved materials/brands on the recommendations of Engineer-in- charge

SCHEDULE OF QUANTITY

(Electrical and Mechanical Works)

Schedule of Work

Name of work: - A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi (SH:- Electrical & Mechanical).

S.No.	Description of item	Qty	Unit	Rate	Amount
	Sub Head :- I (Outsourced Man power to attend day to day complaints)				
1	Providing the services of followings manpower having valid liscence (Electrician, wireman, pump operator etc,) and experience with necessary tools to attend in the various type of complaints at National zoological park residential, non residential buildings, enclosures and open areas etc, mathura road New Delhi. (manpower will attend complaint for all working days in shift duty as desired by engineer-in-charge and the contractor shall provide reliever in weekly rest days and holidays of manpower)				
a)	Wireman cum pump operator	25	Man months	40336.00	10,08,400.00
b)	Khallasi	15	Man months	33099.00	4,96,485.00
c)	Electrician having valid electrician licence	5	Man months	43790.00	2,18,950.00
	Total of Sub Head I				**17,23,835.00**
	Sub Head : II (Material and repairing)				
1	Supplying of following electrical accessories etc as required.				
a)	5/ 6 A P/T Switch	38	Each	13.00	494.00
b)	15/ 16 A P/T Switch	60	Each	62.00	3720.00
c)	5/6 A P/T Socket	25	Each	30.00	750.00
d)	15/ 16 A P/T Socket	50	Each	78.00	3900.00
e)	5/ 6 A Modular Switch	10	Each	44.00	440.00
f)	15/ 16 A Modular Switch	15	Each	96.00	1440.00
g)	5/6 A Modular Socket	10	Each	82.00	820.00
h)	15/ 16 A Modular Socket	15	Each	136.00	2040.00
i)	Bell push Modular type	5	Each	80.00	400.00
j)	Call Bell/ Buzzer single phase	10	Each	57.00	570.00
k)	Brass Batten/ Angle Holder	18	Each	49.00	882.00
l)	20A, SPN, Industiral type socket outlet	15	Each	880.00	13200.00
m)	6 to 32 A SP MCB	20	Each	175.00	3500.00
n)	6 to 32 A DP MCB	3	Each	559.00	1677.00
o)	40A double pole isolator	3	Each	349.00	1047.00
p)	63A double pole isolator	2	Each	440.00	880.00
q)	63A 4 Pole Isolator	1	Each	859.00	859.00

r)	1.5 sqmm PVC insulated copper conductor wire	250	Mtr	23.00	5750.00
s)	4 sqmm PVC insulated copper conductor wire	250	Mtr	54.00	13500.00
t)	1200mm BLDC Ceiling Fan BEE 5 Star rating Service value≥6, minimum air delivery 210 CM/min	15	Each	2446.00	36690.00
u)	20 watt LED Batten fitting minimum 100 lumen / watt	100	Each	395.00	39500.00
v)	3x1.5 sq.mm multicore flexible copper conductor	150	Mtr	74.00	11100.00
w)	3x2.5 sq.mm multicore flexible copper conductor	160	Mtr	118.00	18880.00
x)	3x4 sq.mm multicore flexible copper conductor	550	Mtr	181.00	99550.00
y)	3x10 sq.mm Al. armoured cable	150	Mtr	216.00	32400.00
z)	3.5x50 sq.mm Al. armoured cable	150	Mtr	592.00	88800.00
aa)	4x25 sq.mm al. armoured cable	150	Mtr	384.00	57600.00
ab)	450mm Air Circulator	5	Each	8692.00	43460.00
ac)	PVC tape roll, Thimbles, Nut Bolt, Valves, Bearing, Greese and Gland Dori etc	1	Job	8411.00	8411.00
ad)	3X2.5 sq.mm Flat submersible cable	100	Mtr	111.00	11100.00
ae)	3X4 sq.mm Flat submersible cable	100	Mtr	167.00	16700.00
af)	3X6 sq.mm Flat submersible cable	100	Mtr	239.00	23900.00
	Total of Sub Head II				**543960.00**
	Sub Head : III (Repairing of pumps)				
1	Lifting of defective submersible pumps of capacities varies from 1 HP to 7.5 HP, 240 V to 415 V from existing borewell of different dia and depth by using tripod with chain pully block including detaching of pump from the pipes, rope, cable etc. as per direction of Engineer-in-charge.	6	Job	3564.00	21384.00
2	Lowering of submersible pumps of capacities varies from 1 HP to 7.5 HP, 240 V to 415 V from existing borewell of different dia and depth by using chain pully block complete with fixing of pump in the lines, lowering of rope and water proof jointing the cable, laying of cable with pump i/c testing and trial run etc. all complete as per direction of Engineer-in-charge.	6	Job	3321.00	19926.00
3	Rewinding of 1 HP single phase submersible motor with suitable size copper submersible winding wire i/c repairing of pumps by replacing thrust plate bearing, bushes, Impeller- Diffuzers etc. all complete as per direction of Engineer-in-charge.	1	Job	5373.00	5373.00
4	Rewinding of 1.5 HP single phase submersible motor with suitable size copper submersible winding wire i/c repairing of pumps by replacing thrust plate bearing, Bushes, Impeller- Diffuzers etc. all complete as per direction of Engineer-in-charge.	4	Job	6579.00	26316.00

5	Rewinding of 2 HP single phase submersible motor with suitable size copper submersible winding wire i/c repairing of pumps by replacing thrust plate bearing, Bushes, Impeller- Diffuzers etc. all complete as per direction of Engineer-in-charge.	1	Job	7456.00	7456.00
6	Rewinding of 3 HP three phase submersible pump motor with suitable size copper submersible winding wire i/c repairing of pumps by replacing thrust plate bearing, Bushes, Impeller- Diffuzers etc. all complete as per direction of Engineer-in-charge.	2	Job	8223.00	16446.00
7	Rewinding of 5 HP three phase submersible pump motor with suitable size copper submersible winding wire i/c repairing of pumps by replacing thrust plate bearing, Bushes, Impeller- Diffuzers etc. all complete as per direction of Engineer-in-charge.	1	Job	11622.00	11622.00
8	Rewinding of 7.5 HP three phase mono-submersible pump motor with suitable size copper submersible winding wire i/c repairing of pumps by replacing thrust plate bearing, Bushes, Impeller- Diffuzers etc. all complete as per direction of Engineer-in-charge.	1	Job	12609.00	12609.00
9	Rewinding of 7.5 HP three phase submersible pump motor with suitable size copper submersible winding wire i/c repairing of pumps by replacing thrust plate bearing, Bushes, Impeller- Diffuzers etc. all complete as per direction of Engineer-in-charge.	1	Job	13815.00	13815.00
10	Rewinding of 7.5 HP three phase mono block / booster pump motor with suitable size copper submersible winding wire i/c repairing of pumps by replacing thrust plate bearing, Bushes, Impeller- Diffuzers etc. all complete as per direction of Engineer-in-charge.	2	Job	12609.00	25218.00
11	Replacement of following defective spare parts in the existing Kirloskar make 60 HP suction pumps for sewage i/c testing , Trial run complete etc. as per direction of Engineer-in-charge.				
	Ball Bearing Set (2 Nos.) 4412 C - 1set				
	Thrust Bearing 51314 OCD - 1set				
	Shaft Repair/ Machining				
	Shaft Sleeve - 1set				
	Gland Packing - 1set				
	Pump Packing - 1set				
	Hardware - 1set				
	Impeller Machining - 1set				
	Oil seals x2	1	Job	52849.00	52849.00

12	Providing, laying, testing & commissioning of 'B' class medium duty G.I. pipe conforming to IS 1239 including welding, fittings like elbows, tees, flanges, tapers, nuts, bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required :				
a)	32 mm	30	Mtr	356.00	10680.00
b)	50 mm	24	Mtr	513.00	12312.00
	Total of Sub Head III				**2,36,006.00**
	Sub Head : IV (Supply of Diesel)				
1	Supply of Diesel fuel (50 ltr. Per month) for DG Set installed at NZP	250	Ltr.	96.00	24,000.00
	Total of Sub Head : IV				**24,000.00**
	SUB HEAD:- V (Maintenance & Repairing of AC, Water cooler & UV Purifier)				
1	Servicing of Window Type / Split type AC Unit of different capacities i/c cleaning of complete unit (condenser & evaporator coil fins, fan, blower, grill etc.) with suitable chemicals & high pressure water pump, oiling/greasing of blower and condenser motor, minor top up of refrigerant gas if required, checking and tightening of electrical connections, replacement of worn out minor defective parts like fan blade, blower, capacitors, lugs, connectors, internal wire etc. i/c dismantling & reinstallation of complete unit where ever required including testing & trial run to the satisfaction of Engineer-in-charge.	60	Each	749.00	44,940.00
2	Supplying & charging/ filling of refrigerant gas R-22/ R-32/ R-410A in the existing 1.0/1.5/2.0 TR window type/ split AC Units up to standard pressure i/c leakage testing, repairing the leakage if any, pressure testing, including testing & trial run etc. complete to the satifaction of Engineer-in-charge.	25	Each	2713.00	67,825.00
3	Repair of existing damage PCB (Printed Circuit Board) of split/window AC i/c testing & trial run etc. complete to the satifaction of Engineer-in-charge.	20	Each	2635.00	52,700.00
4	Supplying and fixing of 1.5 TR compressor in the existing STAC/WTAC with brazing, welding, testing, commissioning, gas charging including dismantling of old unit i/c testing & trial run etc. to the satisfaction of Engineer-in-charge.	15	Each	13605.00	2,04,075.00
	Water cooler & UV Purifier				

5	Servicing & overhauling of existing water cooler of capacity storage 150 ltr& 150 LPH discharge including washing / cleaning of condensing coils by applying chemicals and washing with water i/c removing dirt and scale, i/c testing & trial run complete etc. to the satisfaction of Engineer-in-charge.	40	Each	2261.00	90440.00
6	Charging of refrigerant gas (R-22) in the existing water cooler including vaccumization, pressure testing with nitrogen gas including testing the unit after charging the referegent gas & trial run complete etc. to the satisfaction of Engineer-in-charge.	20	Each	2015.00	40300.00
7	Supplying and fixing of 1 TR compressor in the existing water cooler with brazing, welding, testing, commissioning, gas charging including dismantling of old unit i/c testing & trial run etc. to the satisfaction of Engineer-in-charge.	10	Each	13706.00	137060.00
8	Supplying and fixing condensing motor suitable to operate on 220V supply in water cooler including dismantling of old unit of assorted makesi/c testing & trial run as to the satisfaction of Engineer-in-charge.	15	Each	2056.00	30840.00
9	Supplying and replacement of following spare parts in water cooler				
a)	Running capacitor 36 mfd	10	Each	457.00	4570.00
b)	Starting Capacitor 80-100 mfd	10	Each	374.00	3740.00
c)	Relay suitable for water cooler	10	Each	789.00	7890.00
d)	Thermostat	10	Each	1038.00	10380.00
10	Servicing of Water purifier alongwith pre-filter including checking all the parameter of each system and given the status of its connected parts. Filter cartridges of each water purifier with pre-filter should be provided and replaced at the time of each service for following capacity and make of water purifier installed in various places in National Zoological Park premises i/c testing & trial run complete etc. to the satisfaction of Engineer-in-charge.				
a)	Water purifier of dual cartridge filter type of 120/ 60 liter/ hours capacity of Compact model of Aquaguard make.	40	Job	2056.00	82240.00
b)	Pre filter of Aquaguard make.	40	Job	781.00	31240.00
	Total of Sub Head : V				**8,08,240.00**
	SUB HEAD:- VI (Servicing of Sub Station equipment's)				
1	Servicing & Overhauling of existing 11KV HT OCB 400Amp including taking out the trolly cleaning of fixed and moving contact with CRC, checking the machenical an electrical tripping system and lubricant the gear assembly etc as required	1	Job	14950.00	14950.00

2	Servicing & Overhauling of existing 11KV 3 phae 50 hz HT panel compressing of HT OCB chamber with measuring and protection instruments including cleaning of componenets, decarbonising of the bus bar chamber, tighting of connection scaling of all bus bar, joints with HT tape replacement of minor orn out parts like nut bolt and spring asher, testing etc as required	1	Job	12458.00	12458.00
3	Testing and calibration of IDMT relay CDG 31 set having 2 nos overcurrent and 1 nos earth fault, element by secondry injection and primary method, setting of trip timing cleaning of contact including checking of control wiring etc as required	1	Job	8721.00	8721.00
4	Servicing and overhauling of existing 800/1000/1200 Amp horizontal draw out type LT ACB cleaning of fixed and moving contact , arcing contacts arc shoots both CRC, secondary mechanical and electrical tripping system, regreasing of moving mechanism complete as required	2	Job	8721.00	17442.00
5	Servicing of 415V 3phase 50 hz LT panel compressing of LT ACB chamber / MCCB with measuring and protection instruments including cleaning of components, decarbonising of bus bar chamber, tighting of connections, replacement of minor burn out parts like nut bolt and spring Asher etc as required	2	Job	10963.00	21926.00
6	Providing and replacement of 110V AC /24V DC 7Ah power pack in existing substation including disconnection and dismantling the old one out / faulty power pack connection. Testing and commissioning etc as required	1	Job	31146.00	31146.00
7	Servicing of 11 KV/110 Volts PT i/c removal of PT from HT Panel board, cleaning of dirt particles, tightening, connection i/c checking of wiring, replacement of gaskets of top cover reassembly, testing and commissioning etc. complete as reqd.	1	Job	9967.00	9967.00
8	Servicing and testing of 500 KVA 2 Nos, 11/0.433 KV copper distribution transformer complete etc. as required, i/c following testing works.				
	Testing work				
	Magger test				
	Ration test				
	Resistance test				
	Vector group test				
	Magnetic balance test				
	Short circuit test				
	No load test	1	Job	37375.00	37375.00
	Total of Sub Head VI				**1,53,985.00**
	SUB HEAD:-VII(Compound Lighting)				

	Supplying of following electrical accessories etc as required.				
1	LED Street light fixture, powder coated pressure die cast aluminium body (System lumen efficacy ≥105 <120 lm/Watt) of following body materials.				
a)	50 Watt	12	Each	1423.00	17,076.00
2	LED Flood light, powder coated pressure die cast aluminium body (System lumen efficacy ≥105 <120 lm/Watt) of following body materials.				
a)	70 Watt	12	Each	1734.00	20,808.00
3	SMC junction Box/Pole Box	12	Each	621.00	7,452.00
4	45/50 W LED Driver for street light fittings	15	Each	362.00	5,430.00
	Total of Sub Head :- VII				**50,766.00**
	Grand Total of Sub Head(I+II+III+IV+V+VI+VII)				**35,40,792.00**

Financial bid

CIVIL CONSTRUCTION UNIT					
NIT No: 03/2025-26/SE/CCU/CED-I/New Delhi					
Name of work: A/R & M/O Residential buildings, Non-residential buildings, enclosures and other areas of National Zoological Park, Mathura Road, New Delhi.					
SCHEDULE OF QUANTITY					
Name of the Contractor					
Sl. No.	**Name of component**	**Estimated cost (Rs.)**	**Percentage above or below the estimated cost**	**% in Figures**	**Total Cost (Rs.)**
1	2	3	4	5	6
1	**Civil and Electrical & Mechanical Works**	**2,70,86,767/-**	*	*	*

*- To be filled online in bid document.

1) The Column Nos. 4 & 5 are mandatory to be filled by the bidders / tenderers. If these columns are left blank, the tender become invalid.

2) The amount in figures in column No. 6 shall appear automatically corresponding to the percentage quoted in column No.4 & 5.

3) The tenderer is required to quote the percentage only above or below or at par with the estimated cost to cover all the rates of item covered under the respective packages.

4) The percentage shall be written in 2 (two) places of decimal.

5) If the percentage selection in column No 4 is "At Par", by default the percentage will be considered as "Zero" only. In other words, if "At par" is selected in column No.4, then no need to fill column No.5