

Government Of India

Ministry Of Housing & Urban Affairs

**Central Public Works Department**

Excellence in Public Works

Tender Published**Current Tender Details**

Tender ID	111997	NIT/RFP NO	03/e-NIT/EE/CED-I/CCU/2025-26
Name of Work	Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: Civil and Electrical Works)		
Procurement Type	Works	Bid Type	Percentage
Tender Type	OPEN	Estimated Cost	₹ 9,11,836 (Nine Lakh Eleven Thousand Eight Hundred and Thirty Six Rupees)
Bid Submission Closing Date	19/05/2025 15:00	Competitive Bidding Type	NCB

Tender Published Successfully.

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Government Of India

Ministry Of Housing & Urban Affairs

**Central Public Works Department**

Excellence in Public Works

Tender Consolidation View[Print](#)[Download As Pdf](#)**Enquiry Particulars**

Regional Office	EE - CED - I	Office Inviting Bids	Chandigarh - CE - E and F - EE - CED - I
Tender ID	111997	NIT/RFP NO	03/e-NIT/EE/CED-I/CCU/2025-26
Name of Work	Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: Civil and Electrical Works)	Subwork/Packages	
Time Allowed	2 months	Tender Type	OPEN
Procurement Type	WORKS	Bid Type	Percentage
Type of Work	Civil Works - Others	Category of Tender	COMPOSITE
Estimated Cost(INR)	₹ 9,11,836	Competitive Bidding Type	NCB

Bid Submission Dates

Last Date & Time of receipt of Pre-Bid Queries	19/05/2025 14:50	Receipt of Queries through	Email
Email	eeced1ccu-mef@nic.in		
Bid Submission Closing Date & Time	19/05/2025 15:00	Bid Validity Period (In Days)	30
Bid Validity Expiry Date	18/06/2025 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 Del	Contact Details	9953116700
Email	daulat.ram66@gov.in		

EMD Details

EMD (INR)	EMD in favour of	Mode of Payment
₹ 18,237	Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi-110003	DD,FDR

Bid Openers

Department User Name	Region	Mobile Number	Email	Designation	Certificate serial No	Certificate Expiry
PREM SINGH MEENA	EE - CED - I	9953740290	premeena1976@gmail.com	Assistant Engineer	180a5af	11/03/2026 02:31
DAULAT RAM	EE - CED - I	9953116700	daulatram2508@gmail.com	Executive Engineer	188ea67	14/10/2026 02:47

Tender Documents

S.No	File Name	File Description	File Size (in Bytes)	Uploaded Date
1	NIT0301.pdf	NIT0301	256478	09/05/2025 15:17
2	NIT0302.pdf	NIT0302	1349455	09/05/2025 15:18
3	Eligibility.pdf	Eligibility	559607	09/05/2025 15:18

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	Receipt of deposit of EMD in any divisions of CPWD/CCU, MoEF and CC	Mandatory
3	Enlistment Order of the Contractor in appropriate class and category in CPWD.	Mandatory
4	Valid Electrical licence or undertaking.	Mandatory
5	ESI and EPF certificate of the contractor	Mandatory
6	PAN Card issued by Income Tax Department.	Mandatory
7	GST Registration Certificate, if already obtained by the bidder.	Mandatory
8	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	19/05/2025 15:30	View Action

Single Bid

S.No	File Name	File Size(in Bytes)
1	111997-PercentageComposite1.xls	60928

Close

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GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE
CIVIL CONSTRUCTION UNIT

NIT No.: 03/e-NIT/EE/CED-I/CCU/2025-26

Notice Inviting e-Tender

**Name of Work: Providing Cement Concrete Flooring
and electric fencing and misc. civil work at Indian
Elephant at National Zoological Park, New Delhi.
(SH: Civil and Electrical Works)**

Estimated Cost: - Rs. 9,11,836/-

EMD: - Rs. 18,237/-

(May, 2025-26)

**ISSUED BY
EXECUTIVE ENGINEER,
CED-I, CCU, MoEF & CC**

INDEX

Name of work: Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: Civil and Electrical Works)

NIT No.: 03/e-NIT/EE/CED-I/CCU/2025-26

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This NIT contains 1 to 70 pages including this page.

Assistant Engineer (P)
CED-I, CCU, New Delhi

NIT No. **03/e-NIT/EE/CED-I/CCU/2025-26** approved for Rs. 9,11,836/- (Civil: Rs. 6,86,876/- + Electrical: Rs. 2,24,960/-) (Rupees Nine Lakh Eleven Thousand Eight Hundred Thirty-Six Only) and containing pages 1 to 70.

Executive Engineer (C)
CED-I, CCU, MoEF&CC
New Delhi

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), 7th Floor, 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 CPWD registered contractors in composite category for the following work:-

S. No.	NIT No.	Name of work and location	Estimated cost put to tender	Earnest Money	Period of Completion	Last date & time of submission of bid, copy of receipt of deposition of original EMD, and other Documents as specified in NIT	Time & date of opening of bid
1	2	3	4	5	6	8	9
1	03/e-NIT/EE/CED-I/CCU/2025-26	Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: Civil and Electrical Works)	Rs. 9,11,836/- (Civil: Rs.6,86,876/- + Electrical: Rs. 2,24,960/-)	Rs. 18,237/-	02 (Two) Months	19.05.2025 upto 3.00 PM	19.05.2025 at 3.30 PM

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

- The contractor submitting the tender should read the schedule of quantities, additional conditions, additional specifications, particular specifications, CPWD-6 and other terms and conditions given in the NIT and drawings. The bidder should also read the General Condition of Contract for CPWD works 2023 for Maintenance works with upto date correction slips. The Tender is available as Government of India Publications and on CPWD website at <https://etender.cpwd.gov.in> however, provisions included in the tender document shall prevail over the provisions contained in the standard form. The sets of drawings and NIT shall be available in the office of **Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi**. The contractor should also visit the site of work and acquaint himself with the site conditions before tendering. He should only submit his tender if he considers himself eligible and he is in possession of all the required documents. The following conditions, which already form part of the tender conditions, are specially brought to his

notice for compliance while submitting the tender online. They are requested to comply following instructions.

- a) Tenders with any condition including that of conditional rebates shall be rejected forth with.
 - b) The successful bidder shall be required to submit a Performance Guarantee of 5% (Five Percent) of the tendered amount **within 5 days** of issue of letter of intent. This period can be further extended by Engineer-in-Charge up to a maximum period of **02 days** on the written request of the contractor and with late fee as defined in Schedule F.
 - c) GST and Labour-Cess etc. as applicable shall be borne by the contractor himself. The contractor shall quote his rates considering all such taxes and hence their quoted rates should be inclusive of all the tax components.
 - d) It will be obligatory on part of the Contractor/ Bidder to tender for and sign the tender documents for all the component parts. The department reserves right to accept tender in full or in part without assigning any reasons.
- 2) The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.
 - 3) Information and Instructions for bidders posted on websites all form part of bid document.
 - 4) 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.
 - 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 can be seen in the office of **Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi** on all working days between 11.00 AM to 4.00 PM except Sunday and public holidays and downloaded from website <https://etender.cpwd.gov.in> free of cost.
- 6) The bid can only be submitted **after deposition of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD/CCU, MoEF&CC within the period of bid submission** and uploading the mandatory scanned documents as mentioned in the NIT such as Insurance Surety Bond or Demand Draft or Pay order or Banker's Cheque or Deposit at call Receipt or Fixed Deposit Receipts and Bank Guarantee of any Scheduled Bank towards EMD in favour of **"Executive Engineer, CED-I, CCU, MoEF&CC, New Delhi"** receipt of deposition of original EMD to any division office of CCU, MoEF&CC/ CPWD or office of Executive Engineer, CED-I, CCU, New Delhi and all other documents as mentioned in NIT.
 - 7) The online bids will be submitted upto **3.00 PM on 19.05.2025**. The online bid shall be opened at **3:30 PM on 19.05.2025**.
 - 8) Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
 - 9) The intending bidder must have valid class-III digital signature to submit the bid.
 - 10) The Executive Engineer of any division of CCU, MoEF&CC/CPWD shall receive the original EMD for tender of other division/ Divisions.
 - 11) Copy of Enlistment Order and certificate of work experience and other documents as specified in the bid document shall be scanned and uploaded to the e-tendering website within the period of bid submission. However certified copy of all the scanned and uploaded documents as specified

in the bid document shall have to be submitted by the lowest bidder only physically in the office of tender opening authority as and when directed by Engineer-in-charge. **Online bid documents submitted by intending bidders shall be opened only of those bidders, whose all documents scanned and uploaded are found in order including scanned copy of EMD & receipt of Deposition of EMD.**

- 12) On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
- 13) Contractor can upload documents in the form of JPG format and PDF format.
- 14) 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".
- 15) 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).
- 16) The required documents meeting the criteria to qualify as "approved and eligible contractors of CPWD" along with other documents as mentioned under para "List of Documents to be scanned and uploaded within the period of bid submission" below, as uploaded by the agency and hard copies received subsequently shall be checked. The financial bid of only those agencies shall be opened who are found to be eligible agencies, as per this NIT.
- 17) The department reserves the right to reject any prospective bid without assigning any reason.
- 18) 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.
- 19) While submitting the revised bid, contractor can revise the rate any number of times but before last time and date of submission of bid as notified.
- 20) In case of composite tenders, the contractor submitting the tender should read all the three Parts of the tender viz. Part-A, B & C, which are containing schedule of quantities, additional & special conditions, additional specifications, particular specification and other terms and conditions given in the NIT and drawings for Major as well as Minor component of work. Details of these parts are summarized as under:
 - **Part A :- CPWD-6, CPWD-7 including schedule A to F for major and minor component of the work, Standard General Conditions of Contract for CPWD 2023 (Maintenance work) as amended/ modified upto last date of submission of bid.**
 - **Part B :-** Conditions & specifications and schedule of quantities applicable to major component of the work.
 - **Part C :-** Conditions and specifications and schedule of quantities applicable to minor component of the work.

The **Major** Component of work is **Civil Work** and **Minor** Component of work is **Electrical Work**.
- 21) The bidders should also read the General Conditions of Contract for CPWD 2023 (Maintenance work) amended up to last date of submission of bid of this work, which is available as Govt. of India Publications; however, provisions included in the tender document shall prevail over the provisions contained in this standard form. The set of drawings and NIT shall be available with the Executive Engineer.
- 22) The main contractor shall execute the minor component(s) also. He should be either an eligible contractor himself for associate with himself an eligible agency(s) for execution of electrical work as per CPWD-6 for e-tendering. The contractor shall indicate the names of upto three such agencies within prescribed time as "**Minor component agencies**". In case the details of electrical agency are not submitted by the bidder or are not proper then these shall be submitted before acceptance of the bid.

- 23) After acceptance of the tender by competent authority, the EE-in-charge of major component of the work shall issue letter of award on behalf of the President of India. After the work is awarded, the main contractor will have to enter into one agreement with EE-in-charge of major component and has also to sign two/ or more copies of agreement depending upon number of EE's in-charge of minor components. One such signed set of agreement shall be handed over to EE in charge of minor component.
- 24) The main contractor has to enter into agreement with the contractor(s) associated by him for execution of minor component(s). Copy of such agreement shall be submitted to EE in charge of minor component as well as to EE in charge of major component. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.
- 25) Tenders with any condition including that of conditional rebates in the tender document shall be rejected forthwith.
- 26) The **online percentage rate(s)** must be quoted in decimal coinage. Amount shall be calculated and rounded in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.
- 27) The successful bidder shall be required to submit a Performance Guarantee of **5% (Five percent)** of the composite contract amount within a period of issue of letter of acceptance as specified in schedule 'F'.
- 28) The contractor shall have to execute guarantee bonds in respect of Stone work, water supply, sanitary installation & drainage works, water proofing works, CPVC door / windows, Aluminium Works & Road works as per Performa at Annexures.
- 29) GST on materials as applicable shall be paid by the contractor himself. The contractor shall quote his rates considering all such taxes.
- 30) Attention is also drawn to Clauses 6 and 7 of **General Condition of Contract for CPWD works 2023 for Maintenance works**, which prescribes the procedure for computerized recording of measurement and preparation of bill by contractor.
- 31) Intending bidder may submit physical mile stone on the basis of their resources and methodology at the time of tendering as indicated in the "Schedule F", otherwise it will be assumed that agency is agreeable to physical milestones mentioned in the table.
- 32) Intending bidder may give detailed activities/ programme for each milestone fixed in the tender document within 15 days after award of work.
- 33) Payment for the items with less use of materials beyond permissible limits as mentioned in Schedule 'F' of Part-A & C shall not be made to contractor.
- 34) The contractor will not be allowed to construct labour huts in the National Zoological Park. The contractor has to make arrangement for labour huts outside National Zoological Park at his own cost. Nothing extra shall be paid on this account.
- 35) The personal vehicle of contractor shall not be allowed in the Zoo premises.
- 36) The workers of the contractor will be issued ID-Card from AE, in-charge of the work. The contractor will submit details of the workers employed by him for execution of the work with valid ID-Card (Aadhar card / Voter I-Card etc. No worker shall be allowed to enter in the Zoo premises without ID-Card issued by AE-In-charge.

- 37) The contractor will guide his workers regarding guidelines of Zoo authority for safety & security of Zoo Animals. It is the sole responsibility of the contractor in case of any mis-happening or harm to Zoo Animals by his workers.
- 38) The contractor shall keep the site neat & clean during execution of the work and cover the building materials with cloths. In case of any mis-happening with visitors or animals due to scattered materials / malba at his site the contractor shall be held responsible for the same.
- 39) In case of any fine imposed by Zoo authorities due to scattered malba / building materials or any harm to Zoo animals 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.

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

- 1) Insurance Surety Bond, Demand Draft/ Account Payee Banker's Cheque / FDR/ Bank Guarantee of any commercial Bank against EMD.
- 2) Receipt of deposit of EMD in any divisions of CPWD/CCU, MoEF&CC
- 3) Enlistment Order of the Contractor in appropriate class and category in CPWD.
- 4) Valid Electrical licence or undertaking.
- 5) ESI & EPF certificate of the contractor.
- 6) PAN Card issued by Income Tax Department.
- 7) GST Registration Certificate, if already obtained by the bidder.

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

"If work is awarded to me, I/we shall obtain GST registration certificate, as applicable, within one month from the date of receipt of award letter or before release of any payment by CPWD, whichever is earlier, failing which I/we shall be responsible for any delay in payments which will be due towards me/us on account of the work executed and/or for any action taken by CPWD or GST department in this regard".

- 8) Any other Document as specified in the NIT.

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

CPWD-6 FOR E-TENDERING

1. Item rate/percentage rate bids are invited on behalf of President of India from approved and eligible contractors of CPWD for the Work of “**Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: Civil and Electrical Works)**”

The enlistment of the contractors should be valid on the last date of submission of bids.

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

- 1.1 The work is estimated to cost for **Rs. 9,11,836/- (Civil: Rs. 6,86,876/- + Electrical: Rs. 2,24,960/-)**. This estimate, however, is given merely as a rough guide.
2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7/8 (or other Standard Form as mentioned) which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **02 Months** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. (i) The site for the work is available.
or
The site for the work shall be made available in parts as specified below: -
.....
- (ii) The architectural and structural drawing for the work is available
or
The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work.
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website <https://etender.cpwd.gov.in> or www.cpwd.gov.in free of cost.
6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.

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, MoEF&CC, 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, 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** for single bid works and **180 days** for two bid system or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

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

Copy of Enlistment Order and certificate of work experience and other documents as specified in the notice inviting e- tender shall be scanned and uploaded on the e-Tendering website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in e- tender notice shall have to be submitted by the lowest bidder within a week physically in the office of tender opening authority. Online bid documents submitted by intending bidders shall be opened only of those bidders, who's original EMD deposited with any division of CPWD and other documents scanned and uploaded are found in order.

The bid submitted shall be opened at **03:30 PM** on **19.05.2025**.

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 **5% (Five Percent)** 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 subcontractors, if any engaged by the contractor for the said work within the period specified in Schedule F.

12. The description of the work is as follows:

“Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: Civil and Electrical Works)”

Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder 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, MoEF&CC/ CPWD Circle** (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the Central Public Works Department or in the Ministry of Housing and Urban Affairs. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
17. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
18. The bids for the work shall remain open for acceptance for a period of **30 (thirty) days** from the date of opening of bids. Further
 - (i) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department within 7 days after last date of submission of bids, then the Government shall without prejudice to any other right or

- remedy, be at liberty to forfeit 50% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
- (ii) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department after expiry of 7 days after last date of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
- (iii) In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the same work.
19. This notice inviting Bid shall form a part of the contract document. The successful bidder/ contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of: -
- a. The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
- b. Standard C.P.W.D. Form 7/8 or other Standard C.P.W.D. Form as applicable.
20. Integrity Pact: The contractor shall download the Integrity Pact, which is a part of tender documents, affix his signature in the presence of a witness, and upload the same while submitting online bids for all works of estimated cost put to tender equal or more than the threshold value given in Schedule-F. In the event of his failure to sign and upload the Integrity Pact along with other bid documents, his bid shall be rejected.
21. 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.

*To be filled in by NIT approving authority

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

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE
PERCENTAGE RATE BID AND CONTRACT FOR WORKS

Tender for the work of “**Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: Civil and Electrical Works)**”

- i) To be uploaded by **3:00 pm on 19.05.2025** to/upload at
- ii) To be opened in presence of tenderers who may be present at **3:30 pm on 19.05.2025** in the office of 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.

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

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 and 12.3 of the tender form. 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 and integrity of the State.

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, MoEF&CC 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.

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 letsters 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 separate sheets attached

SCHEDULE 'B'

Schedule of materials to be issued to the contractor:

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

SCHEDULE 'C'

Schedule of Tools and Plants to be hired to the contractor:

S. No.	Description	Hire charges per day	Place of issue
1	2	3	4
-----NIL -----			

SCHEDULE 'D'

Extra schedule for specific requirements/document for the work, if any:	As per tender documents
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SCHEDULE 'E'

Reference to General Conditions of contract	General Conditions of Contract 2023 for Maintenance works, Central Public Works Department, as amended up to last date of submission of bids.
Name of Work	Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: Civil and Electrical Works)
Estimated cost of the work	Rs. 9,11,836/- (Civil: Rs.6,86,876/- + Electrical: Rs. 2,24,960/-)
Earnest money	Rs. 18,237/-
Performance Guarantee	5.00% of tendered amount
Security Deposit	2.50% of tendered amount.

SCHEDULE 'F'

GENERAL RULES AND DIRECTION

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

2(v)	Engineer-in-Charge (Major Component)	Executive Engineer, CED-I, CCU, MoEF&CC or his or his legal successor or Assignee thereof.
	Engineer-in-Charge (Minor Component)	Executive Engineer, CED-I, CCU, MoEF&CC or his or his legal successor or Assignee thereof.

2(viii)	Accepting Authority	Executive Engineer, CED-I, CCU, MoEF&CC or his 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(xi)	Standard Schedule of Rates	
	Civil Works	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)
	Electrical & Mechanical Works	DSR-2022/ DSR-2025 Vol-II with up-to-date correction slips issued upto last date of submission of bids & Market rates
2(xii)	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 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	5 Days
ii)	Maximum allowable extension with late fee @0.1% per day of Performance Guarantee amount beyond the period as provided in i) above	2 Days

Clause 2	Authority for fixing Compensation under Clause 2	Superintending Engineer, CCU, MoEF&CC. or successor 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

Sl. No.	Description of mile stone (s)	Time allowed (From date of start)	Amount to be withheld in case of Non-achievement of each Mile stone(s)
1	Work done amounting to 25% of accepted tender amount (Civil + Electrical).	15 Days	1.25% of accepted tendered amount.
2	Work done amounting to 50% of accepted tender amount (Civil + Electrical).	30 Days	1.25 % of accepted tendered amount.
3	Work done amounting to 75% of accepted tender amount (Civil + Electrical).	45 Days	1.25 % of accepted tendered amount.
4	Work done amounting to 100% of accepted tender amount (Civil + Electrical).	60 Days	1.25 % of accepted tendered amount.

Time allowed for execution of work:

02 (Two) Months

Authority to decide:

i)	Authority 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)	Authority 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)	Shifting of date of start in case of 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 5.4: Schedule of rate of recovery for delay in submission of the modified programme in terms of delay days

S.N.	Contract Value	Recovery Rs / Per day
1.	Less than or equal to Rs. 1 crore	500

Clause 6: Computerised Measure Book (CMB) / Electronic Measurement Book (EMB)

i)	Mode of measurement	CMB
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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. 4.55 Lakhs (Civil & E&M Works)
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Clause 7A

No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable as submitted by the Bidder to the Engineer-in-Charge.	Yes
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Clause 10 A

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

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

Clause 10 B

Clause 10B (ii)	
Whether Clause 10 B (ii) shall be applicable	No

Clause 10 C- Not Applicable

Clause 10CA – Not Applicable

Clause 10CC – Not Applicable

Clause 11 :

Specifications to be followed for execution of: civil work	CPWD Specifications 2019 Volume-I and II with correction slips issued upto last date of submission of bids
Specifications to be followed for execution of: Electrical & Mechanical Works	CPWD Specifications for Electrical Work. Part-I (internal) 2023, Part-II (external) 2023, HVAC works 2017, Part-IV (Substations) 2013, Part-V (Wet riser) & sprinkler system) 2020, Part-VI (Fire alarm system) 2018, Part-VIII (Gas based fire extinguisher system) 2013 and as amended up to correction slips.

Clause 12:

Type of Work:	Maintenance Work	
The completion cost of shall, in no case, exceed 1.5 times the contract amount and governed as per DG CPWD Memorandum No. DG/CON/Maintenance 2023/03 dated 18.12.2023.		
Authority to decided deviation upto 1.25 times of tendered amount	Engineer-in-Charge	
Authority to decided deviation beyond 1.25 times & 1.50 times of tendered amount	Chief Engineer, CCU, MoEF&CC, New Delhi	
12.2. &12.3	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for building work.	No Limit (All deviated quantities shall be paid on agreement rates)

Clause 16:

Competent authority for deciding reduced rates	:	Superintending Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof
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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 and as directed by Engineer Incharge will be deployed by the contractor.

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: Settlement of disputes by Conciliation and Arbitration

Conciliator:	:	SE, CCU, MoEF&CC or his legal successor or Assignee thereof
Arbitrator Appointing Authority	:	Chief Engineer, CCU, MoEF&CC or his legal successor or Assignee thereof
Place of Arbitration	:	Delhi

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

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. 15,000/- 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

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

S. No.	Description of item	Rates in figures and words at which recovery shall be made from the Contractor	
		Excess beyond permissible variation	Less use beyond permissible variation not permitted
1.	Cement OPC 43 grade /PCC	-	-
2.	Steel reinforcement bars	-	-
3.	Structural steel	-	-

- Nothing extra shall be paid for excess use of materials beyond the theoretical consumption.
- Less use of materials from the theoretical consumption is not permitted.

**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	:	Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: Civil and Electrical Works)
NIT No	:	03/e-NIT/EE/CED-I/CCU/2025-26
Estimated Cost	:	Rs. 9,11,836/- (Civil: Rs. 6,86,876/- + Electrical: Rs. 2,24,960/-)
Amount of Earnest Money Deposit	:	Rs. 18,237/-
Last date of submission of bid	:	19.05.2025
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

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

(Guarantee offered by Bank to CCU, MoEF&CC in connection with the execution of contracts)

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

Whereas The Executive Engineer, CED-I, Civil Construction Unit (CCU), Ministry of Environment, Forest & Climate Change (MoEF&CC), 7th Floor, Pt. Deen Dayal Antyodaya Bhawan, CGO Complex, Lodhi Road, New Delhi-110003 on behalf of the President of India (here in after called "The Government") has invited bids under **NIT Number 03/e-NIT/EE/CED-I/CCU/2025-26** for **"Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi.(SH: Civil and Electrical Works)"**

The Government has further agreed to accept irrevocable Bank Guarantee for Rs (Rupees only) valid upto..... (date)*..... as **Earnest Money** 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, CED-I, Civil Construction Unit (CCU), Ministry of Environment, Forest & Climate Change (MoEF&CC), 7th Floor, Pt. Deen Dayal Antyodaya Bhawan, CGO Complex, Lodhi Road, New Delhi-110003 on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number with (Name and address of the contractor) (hereinafter called "the Contractor") for execution of work (name of work) The Government has further agreed to accept an irrevocable Bank Guarantee for Rs (Rupees only) valid upto (date) as **Performance Guarantee/security Deposit/Mobilization Advance** from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.

- 1) 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.
- 2) We (Indicate the name of the Bank) do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... (Rupees only).
- 3) 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.

- 4) 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.
- 5) 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.
- 6) This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
- 7) We (indicate the name of the Bank) undertake not to revoke this guarantee except with the consent of the Government in writing.
- 8) 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

Authorized signatory

Name

Designation

Staff code no.

Bank seal

2. Signature

Name and address

*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 & 150 micron ,	
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 jars 100ml, 200ml, 500ml	
13	Gauging trowels 100mm & 200mm with wooden Handle	
14	Spatula 100mm & 200mm with long blade wooden Handle	
15	Vernier callipers 12" & 6" size	
16	GI tray 600x450x50mm, 450x300x40mm, 300x250x40mm	
17	Screw gauge 0.1mm-10mm, least count 0.05	
18	Set of box spanner	
19	Hammer 1lb & 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, Architectural/Structural drawings 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.** The work shall be carried out in accordance with the Architectural drawings and Structural drawings, to be issued by the Engineer-in-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural, structural and services drawings issued for the work and satisfy himself that the information available there from is complete and unambiguous. The discrepancy, if any, shall be brought to the notice of the Engineer-in-Charge before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information.
- 1.5.** Should there be any difference or discrepancy between the description of items as given in the particular specifications for individual items of work, special conditions and I.S. Codes, drawings etc., the following order of preference shall be observed-
 - (i) Nomenclature of items as per Schedule of Quantities
 - (ii) Special/Additional Conditions
 - (iii) Particular Specifications
 - (iv) Architectural/Structural drawings
 - (v) CPWD Specifications including upto date correction slips.
 - (vi) CPWD General Conditions of Contract (2023) for Maintenance works including correction slips issued up to last date of submission of bid including extensions if any.
 - (vii) Indian Standards Specifications of B.I.S.
 - (viii) ASTM, BS, or other foreign origin code mentioned in tender document.
 - (ix) Manufacturer’s specifications and as decided by the Engineer-in-Charge.
 - (x) Sound Engineering practices or well-established local construction practices.
- 1.6.** 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.

- 1.7. 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.
- 1.8. The contractor will not be allowed to construct labour huts in the National Zoological Park. The contractor has to make arrangement for labour huts outside National Zoological Park at his own cost. Nothing extra shall be paid on this account.
- 1.9. The personal vehicle of contractor shall not be allowed in the Zoo premises.
- 1.10. The contractor will guide his workers regarding guidelines of Zoo authority for safety & security of Zoo Animals. It is the sole responsibility of the contractor in case of any mis-happening or harm to Zoo Animals by his workers.
- 1.11. The contractor shall keep the site neat & clean during execution of the work and cover the building materials with cloths. In case of any mis-happening with visitors or animals due to scattered materials / malba at his site the contractor shall be held responsible for the same.
- 1.12. In case of any fine imposed by Zoo authorities due to scattered malba / building materials or any harm to Zoo animals 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.
- 1.13. 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.
- 1.14. Any legal or financial implications resulting out of disposal of earth shall be sole responsibility of the contractor. Nothing extra shall be paid on this account.
- 1.15. The contractor(s) shall give to the local body, police and other authorities all necessary notices etc. that may be required by law and obtain all requisite licenses for temporary obstructions, enclosures etc. and pay all fee, taxes and charges which may be levied on account of these operations in executing the contract.
- 1.16. The contractor shall ensure that there is no damage to adjoining property. 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.
- 1.17. The building work shall be carried out in the manner complying in all respects with the requirements of the relevant bylaws and regulations of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-charge and nothing extra shall be paid on this account.
- 1.18. 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.

- 1.19.** 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.
- 1.20.** 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.
- 1.21.** 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.
- 1.22.** Some restrictions may be imposed by the security agencies /client on the working and on movement of labour, materials etc. in the campus/site and may require to issue identity cards to all persons authorized by contractor to do work / visit the work site. The contractor shall be bound to follow all such restrictions / instructions and no claim whatsoever shall on this account will be entertained. The loss of time on this account, if any, shall have to be made up by generating additional resources etc. at no extra cost.
- 1.23.** The rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark, spot levels, construction of all safety and protection devices, barriers, earth embankments, preparatory works, all testing of materials, working during monsoon, working at all depths, height and locations etc. unless specified in the schedule of quantities.
- 1.24.** 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.
- 1.25.** 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.
- 1.26.** The contractor shall deploy adequate resources e.g. manpower, labour, T&P, Plant & Equipment etc. as per actual requirement of work.
- 1.27.** 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.
- 1.28.** 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.

- 1.29.** The fee payable to statutory authorities for obtaining the various permanent service connections and occupancy certificate for the building shall be borne by the Department.
- 1.30.** The rates for all items shall be considered as inclusive of pumping/baling out water, if necessary, for which no extra payment shall be made. The conditions shall be considered to include water from any source such as inflow of flood, rain water, surface drainage, sewerage or due to any other reason including surface and sub-soil water etc. and shall apply to the execution in any season.
- 1.31.** 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.
- 1.32.** No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.
- 1.33.** All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, temporary barricading or fencing around the working sites, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement & other storage, fabrication yard, site laboratory, water tank etc. for approval.
- 1.34.** For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). Normally contractors shall not be allowed to execute the RCC, electrical and finishing work at night. Work at night shall, however, be allowed if the site conditions/circumstances so demand. No claim whatsoever shall be entertained on this account, not with-standing the fact that the contractor may have to pay extra amounts for any reason, to the labours and other staff engaged directly or indirectly on the work according to the provisions of the labour Act and other statutory bodies regulations and the agreement entered upon by the contractor with them.

- 1.35.** The contractor shall maintain in perfect condition, all portions executed till completion of the entire work allotted to him. Where however phased delivery of work is contemplated these provisions shall apply separately to each phase.
- 1.36.** 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.
- 1.37.** 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.
- 1.38.** 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.
- 1.39.** 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.
- 1.40.** 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.
- 1.41.** In case of local Municipal regulations / restrictions by client /non-availability space at site if huts for labours are not allowed to be erected at the site of work, the contractor shall be required to provide such accommodation at suitable place at his own cost and nothing extra shall be paid on this account.
- 1.42.** Any cement slurry added over base surface for continuation of concreting for better bond is deemed to have been built in the items and nothing extra shall be payable and no extra cement considered in consumption on this account.
- 1.43.** Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar service encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. In case the same are to be removed and diverted. The same shall be payable to the contractor. The contractor shall work out the cost and the same shall be approved by Engineer-in-Charge. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.
- 1.44.** The contractor shall be responsible for the watch and ward / guard of the buildings safety, fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.

1.45. SETTING OUT:

- (i) The contractor shall carry out survey of the work area, setting out the layout and fixing of alignment of the building as per architectural and Structural drawings in consultation with the Engineer-in-Charge and proceed further ensuring full structural continuity and integrated and monolithic construction. Any discrepancy between the architectural drawings and actual layout at site shall be brought to the notice of the Engineer-in-charge. It shall be responsibility of the contractor to ensure correct setting out of alignment/layout using total station instrument. Nothing extra shall be payable on this account.
- (ii) The contractor shall establish, maintain and assume responsibility for grades, lines, levels and bench marks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions to the Engineer-in-Charge before commencing work. Commencement of work shall be regarded as the contractor's acceptance of such grades, lines, levels and dimensions and no claim shall be entertained at a later date for any errors found.
- (iii) The initial levels shown in the layout plan are indicative and the actual ground levels may vary with the levels shown in the layout plan. Though the site levels are indicated in the drawings the Contractor shall ascertain and confirm the site levels with respect to benchmark from the concerned authorities. No claim due to difference in ground levels as per layout plan and as per actual on ground shall be entertained.
- (iv) If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the Contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer -in-Charge. Nothing extra shall be payable on this account.
- (v) The Contractor shall protect and maintain temporary/ permanent benchmarks at the site of work throughout the execution of work. These benchmarks shall be got checked by the Engineer-in-Charge or his authorized representatives. The work at different stages shall be checked with reference to bench marks maintained for the said purpose. Nothing extra shall be payable on this account.
- (vi) The approval by the Engineer-in-Charge, of the setting out by the Contractor, shall not relieve the Contractor of any of his responsibilities and obligation to rectify the errors/ defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.

1.46. SAFETY PRECAUTIONS

- (i) Contractor shall within two weeks of award of work, submit to the Engineer-in-Charge for his approval, list of measures for maintaining safety of manpower deployed for construction.
- (ii) The contractor(s) shall erect the barricading of required height with Precoated galvanized iron profile sheet/MS sheets with proper structural support for enclosing the full area of constructions as per direction of Engineer-in-charge.
- (iii) *Entry to the site shall be controlled for proper security of man and materials and to avoid accidents.*
- (iv) 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.

- (v) 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.
- (vi) 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.
- (vii) It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
- (viii) 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.
- (ix) For facia work, outer finishing and other RCC works etc. double steel scaffolding having two sets of vertical supports with steel staircase for inspection of works by engineer in charge shall be used. The supports shall be sound and strong, tied together with horizontal piece over which scaffolding planks shall be fixed.
- (x) *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.*

1.47. QUALITY ASSURANCE

- (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 contractor for non-availability of the brand specified and also subject to independent verification by the Engineer-in-Charge. In exceptional cases, where such approval is required, the decision of Engineer-in-Charge as regards equivalent make of the material shall be final and binding on the Contractor. No claim, whatsoever, of any kind shall be entertained from the Contractor on this account. Nothing extra shall be payable on this account. Also, the material shall be procured only after written approval of the Engineer-in-Charge.

- (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) 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.*

1.48. CLEANLINESS OF SITE

- (i) The Contractor shall not stack building material / malba / muck on the land or road of the local development authority or on the land owned by 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.
- 1.49.** 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.
- 1.50.** 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.
- 1.51.** 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.
- 1.52. 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.
- 1.53.** 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.
- 1.54.** 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.
- 1.55.** Jurisdiction of Court - Courts at Delhi alone shall have the jurisdiction to decide any dispute arising out of or in respect of this contract.

1.56. 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.

PART-B

**GURANTEE BOND, PREFERRED MAKES OF MATERIALS
AND SCHEDULE OF QUANTITIES OF THE CIVIL WORKS.**

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

The agreement made this..... day of (Two Thousand----- only) betweenS/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 effect 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.

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

SIGNED, sealed and delivered by OBLIGATOR in the presence of: -

1. 2.

SIGNED FOR AND BEHALF OF THE PRESIDENT OF INDIA BY in the presence of

1. 2.

LIST OF ACCEPTABLE MAKES FOR CIVIL WORKS

Acceptable makes of materials to be used in the work are enclosed. In case of non-availability of these makes, the Executive Engineer, CED-I, CCU may allow use of alternative. 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 Engineer-in-charge.

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
1	ANTI TERMITE PESTICIDES	BAYER, FMC INDIA, HINDUSTAN INSECTICIDES
2	STEEL (TMT FE-550D)	TATA TISCON, RINL, JINDAL STEEL & POWER LTD, JSW STEEL LTD. AND SAIL
3	STRUCTURAL STEEL SECTIONS	TATA, JINDAL, SAIL, RINL
4	CEMENT [OPC 43 GRADE AND P.P.C.]	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	NITCO, UNISTONE, KK, CICO
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

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
18	WOOD FINISH (MELAMINE & PU POLISH)	ASIAN, ICI, JOTUN, NEROLAC
19	LAMINATE	MERINO, GREENLAM, CENTURY, DURO
20	PLY BOARD, PLYWOOD (PINE BOARD)	GREEN, MERINO, CENTURY, DURO
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 SEALANT	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 CONCRETE	ACC, NDCON, ULTRATECH, RMC INDIA, SHRI RAM
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

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
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
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

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
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 DOORS & WINDOWS	FENESTA, ALUPLAST, KOENMERLING
72	WALL GUARD, HAND RAIL, CORNER GUARD	CONSTRUCTION SPECIALITIES / GRADUS INPROCORP INDIA PVT. LTD./WINDOWTECH
73	SOLID ACRYLIC SURFACE	MERINO, LG, GRANIMUM, 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

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
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
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

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
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	CI 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 ACCESSORIES / FITTINGS	JAQUAR, ROCA, KOHLER
110	GLASS SHOWER PARTITION	DORMA, HAFELE, GEZE
111	SANITARY WARE (URINAL, WASH BASIN, WC ETC.)	JAQUAR, GROHE, KOHLER
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

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
123	ALUMINIUM OPERABLE LOUVER	TECHNAL, DOMAL, YOGI GLAZE, SCHUCO
124	AIR TRANSFER GRILL	RUSKIN, SYSTEM AIR, TROX, TREMCO
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,

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
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 SEALANT	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
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/DURIAN/ GODREJ
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	PVC WATER TANK	SINTEX, SUPREME, VECTUS, POLYCON
161	INJECTION GROUTING	ECMAS, SIKA

S. NO.	DETAILS OF MATERIALS	MANUFACTURERS NAME
162	RCC PIPES (NP-2)/ (NP-3)	BRHC PIPES INDUSTRIES, JAIN SPUN PIPE, LAKSHMI CONCRETE PRODUCT

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.

SCHEDULE OF QUANTITY
FOR CIVIL WORK

<u>Schedule of Quantity</u>					
Name of work:- Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: - Civil Works)					
Sl. No.	Sub-heads and item of work	Qty	Unit	Rate	Amount
1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
1.1	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)	5.25	cum	6518.60	34,223.00
2	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.				
2.1	All works upto plinth level :				
2.1.1	Concrete of M25 grade with minimum cement content of 300 kg /cum	11.00	cum	9439.05	1,03,830.00
3	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).	0.15	cum	11505.50	1,726.00
4	Centering and shuttering including strutting, propping etc. and removal of form for				
4.1	Suspended floors, roofs, landings, balconies and access platform	2.00	sqm	927.25	1,855.00
5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.				

5.1	Thermo-Mechanically Treated bars of grade Fe-500D or more.	20.00	kg	107.85	2,157.00
6	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:				
6.1	Cement mortar 1:6 (1 cement : 6 coarse sand)	2.00	cum	7132.25	14,265.00
7	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.	483.00	kg	133.70	64,577.00
8	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/mm ²), 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.				
8.1	10 x 160 mm	168.00	each	224.50	37,716.00
9	Supplying and stacking at site.				
9.1	Good earth	290.00	cum	775.50	2,24,895.00
10	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				
10.1	20 mm dia nominal bore	30.00	metre	437.30	13,119.00
11	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.				
	External work				
11.1	20 mm dia nominal bore	100.00	metre	368.60	36,860.00
11.2	32 mm dia nominal bore	2.00	metre	540.30	1,081.00
12	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
12.1	20 mm nominal bore	4.00	each	539.95	2,160.00
12.2	32 mm nominal bore.	2.00	each	689.60	1,379.00
13	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	500.00	per litre	11.00	5,500.00
14	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 :				
14.1	300 mm dia. R.C.C. pipe	3.00	metre	994.30	2,983.00
	Total			:-	5,48,326.00
	Add Cost Index 3% on DSR items			:-	16,450.00
	Total			:-	5,64,776.00

Modified Estimated Cost after using correction factor on DSR 2023 on Account of GST @ 0.973 Only DSR 2023 Items				:-	5,49,527.00
15	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.	8.00	Day	9058.00	72,464.00
16	Coarse sand zone-III	15.00	Cum	1839.35	27,590.00
17	Fine sand (zone IV)	30.00	Cum	1243.15	37,295.00
Total				:-	6,86,876.00

Assistant Engineer (P)
CED-I, CCU, New Delhi

Executive Engineer,
CED-I, CCU, New Delhi

PART-C

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

ADDITIONAL CONDITION FOR ELECTRICAL WORKS

General Commercial & Technical Conditions:

- 1.0 All the works shall be carried out as per CPWD General specification for Electrical Works, Part-I (Internal) 2023 & Part-II (External) 2023, amended up to date and should also comply with relevant provisions of the Indian Electricity Rules and Acts as applicable, amended up to date.
- 2.0 The contractor is advised to visit the site of work to have an idea of the execution of the work; failure to do so shall not absolve their responsibility to do the work as specified in agreement.
- 3.0 **Rates:**
 - 3.1. The work shall be treated as on works contract basis and the rates tendered shall be for complete items of work (except the materials, if any, stipulated for supply by the department) inclusive of all taxes (including GST), duties, and levies etc. and all charges for items contingent to the work, such as packing, forwarding, insurance, freight and delivery at site for the materials to be supplied by the contractor, watch and ward of all materials (including those supplied by the department, if any) for the work at site etc
 - 3.2. Prices quoted shall be firm
- 4.0 **Taxes and Duties:**
 - 4.1. Being an indivisible works contract, any taxes (including GST), duties, and levies etc. are not payable separately.
 - 4.2. The Goods and service tax (GST) shall be deducted from the bills of the contractor as applicable in the State in which the work is carried out, at the time of payments.
- 5.0 **Mobilization Advance:**

No mobilization advance shall be paid for the work, unless otherwise stipulated in tender papers for any individual works/ composite work.
- 6.0 **Completeness of Tender:**

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

Unless and otherwise specified in the tender documents, the following works shall be arranged by the Department:

 - a) Supply of materials to the contractor if stipulated in the tender documents.

8.0 Works to be done by the contractor:

Unless and otherwise mentioned in the tender documents, the following works shall be done by the contractor, and therefore their cost shall be deemed to be included in their tendered cost:-

- a) Foundations for equipments and components where required, including foundation bolts.
- b) Cutting and making good all damages caused during installation and restoring the same to their original finish.
- c) Sealing of all floor openings provided by him for pipes and cables, from fire safety point of view, after laying of the same.
- d) Painting at site of all exposed metal surfaces of the installation other than pre-painted items like fittings, fans, switchgear/distribution gear items, cubical switchboard etc. Damages to finished surfaces of these items while handling and erection, shall however be rectified to the satisfaction of the Engineer-in-Charge.
- e) Testing and commissioning of completed installation.
- f) Storage space for all equipments, components and materials for the work

9.0 Tools for handling and Erecting:

All tools and tackles required for handling of equipment and materials at site of work as well as for their assembly and erection and also necessary test instruments shall be the responsibility of the contractor.

10.0 Payment Terms:

Payment shall be made as per the relevant terms of the agreement.

11.0 Co-ordination with other agencies:

The contractor shall co-ordinate with all other agencies involved in the building work so that the building work is not hampered due to delay in his work. Recessed conduit and other works, which directly affect the progress of building work, should be given priority.

11.1. Care of buildings:

Care shall be taken by the contractor to avoid damage to the building during execution of his part of the work. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove, at his costs, all unwanted and waste materials arising out of his work, from the site.

12.0 Structural Alterations to Buildings:

- a) No structural member in the building shall be damaged/altered, without prior approval from the competent authority through the Engineer-in-charge.
- b) Structural provisions like openings, cutouts, if any, provided by the department for the work, shall be used. Where these required modifications, or fresh provisions are required to be made, such contingent works shall be carried out by the contractor at his cost.

- c) All such openings in floors provided by the department shall be closed by the contractor after installing the cables/conduits/rising mains etc. as the case may be, by any suitable means as approved by the Engineer-in-charge without any extra payment.
- d) All chases required in connection with the electrical works shall be provided and filled by the contractor at his own cost to the original architectural finish of the buildings.

13.0 Addition to an installation:

Any addition, temporary or permanent, to the existing electrical installation shall not be made without a properly worked out scheme/design by a qualified Electrical Engineer to ensure that such addition does not lead to overloading, safety violation of the existing system.

14.0 Work in occupied buildings:

- a) When work is executed in occupied buildings, there would be minimum of inconvenience to the occupants. The work shall be programmed in consultation with the Engineer-in-charge and the occupying department. If so required, the work may have to be done even before and after the office hours.
- b) The contractor shall be responsible to abide by the regulations or restrictions set in regard to entry into, and movement within the premises.
- c) The contractor shall not tamper with any of the existing installations including their switching operations or connections there to without specific approval from the Engineer-in-charge.

15.0 Conformity to IE act, IE Rules, and standards:

15.1. All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 1910 and Indian Electricity Rules, 1956 amended up to date (Date of call of tender unless specified otherwise). List of rules of particular importance to electrical installations under these General Specifications is given in Appendix C for reference.

16.0 General requirements of components:

16.1. **Quality of material:** All materials and equipments supplied by the contractor shall be new. They shall be of such design, size and materials as to satisfactorily function under the rated conditions of operation and to withstand the environmental conditions at site.

- a) To inspect materials at the authorized dealer's go downs to ensure delivery of genuine materials at site.
- b) To receive materials after physical inspection at site.

17.0 Workmanship:

17.1 Good workmanship is an essential requirement to be complied with. The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice.

17.2 Proper supervision/skilled workmen: The contractor shall be a licensed electrical contractor suitable for execution of the electrical work. He shall engage suitably

skilled/licensed workmen of various categories for execution of work supervised by supervisors / Engineer of appropriate qualification and experience to ensure proper execution of work. They will carry out instruction of Engineer-in-charge and other senior officers of the Department during the progress of work.

- 17.3** Use of quality materials: Only quality materials of reputed make as specified in the tender will be used in work.
- 17.4** Fabrication in reputed workshop: Switch boards and LT panels shall be fabricated in a factory/workshop having modern facilities like quality fabrication, seven tank process, powder/epoxy paint plant, proper testing facilities, manned by qualified technical personnel. These shall be as per make / item approved.
- 18** Unless specifically mentioned otherwise all the relevant codes & standards published by the Bureau of India Standards before the acceptance of the contract shall apply and govern in respect of design, workmanship, quality and properties of materials, testing and measurements.
- 19** The contractor shall organize his operations in a workman like manner and take all necessary precautions to provide safety and prevent accidents on the site to both person and property, more so if they will be working in proximity to working machinery of existing plants in operation.
- 20** The Owner shall have the power in requiring the contractor to adopt from time to time such measures as they may consider necessary to ensure the above requirements. The Owner shall not be responsible for any consequence resulting from violation of safety requirements. In particular the Contractor shall ensure compliance with the all-necessary safety codes.
- 21** All duties, taxes (including GST), octroi, turnover tax etc. shall be borne by the contractor.
- 22** The work has to be executed in shifts and all necessary arrangements are to be made by the contractor & nothing extra shall be claimed for the by the Contractor.
- 23** It should be carefully noted that numerous agencies will be working in the project simultaneously and the contractor shall have to work at every stage in close coordination with each of these agencies. He shall have to programme his work accordingly in consultation with other agencies as per sequential requirements as may be decided by the CCU and Client or simultaneous execution of other components of the work by other agencies may necessitate reorganizing, which shall not be accepted as grounds for any delay or excuse of any nature what so ever.

- 24 **Eligibility criteria for specialized E & M Works** : - The Composite category contractor is also being eligible to carry out himself/herself work of Electric **Fencing work** without associating any specialized agency/Manufacturer/OEMs/Approved and eligible CPWD agency provided:

(a) He fulfills the prescribed eligibility criteria respectively for these work(s) as mentioned below.

OR

(b) He directly procures the equipment of approved make from manufacturer and gets it installed from authorized agency/service provider of the manufacturer or specialized agency as per criteria mentioned in NIT.

Otherwise he has to associate the agency fulfilling the prescribed eligibility criteria as mentioned below:-

Eligibility Criteria for Electric Fencing work: Agency should have satisfactorily completed the similar works as mentioned below during the last 7 years ending on 30.04.2025.

Three similar works each costing not less than Rs. 90 thousand

OR

Two similar works each costing not less than Rs. 1.35 Lacs

OR

One similar works each costing not less than Rs. 1.80 Lacs

Similar work shall mean SITC of Electric Fencing System.

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. Agency shall submit an authorization letter from Manufacturer/ OEM taken in this NIT “The Manufacturer / OEM shall supply the material to the bidder and provide technical support during execution of work & during extended warranty period upto 5 years after date of completion of work and spare part shall be available minimum up to 5 years from the date of completion”.

2. The following are to be submitted for approval: -

2.2 Circuit Diagram & Design along with components.

2.2 One set of technical catalogues of all the equipments to be used in the system.

2.3 The successful Bidders shall submit operation manual of the system Proposed which shall also include basic trouble shooting guidelines.

ADDITIONAL SPECIFICATIONS FOR ELECTRICAL WORKS

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 items such as screws, thimbles, and steel wires etc. required for completing an item as per specifications are deemed to have been included in the item even if not specifically mentioned in the item.
- 1.3 All hardware materials such as MS nuts / bolts / screws / washers etc, to be used in the work shall be zinc coated / cadmium plated.
- 1.4 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.
- 1.5 The contractor shall ensure that chase cutting machine is used for cutting chases for laying of conduit.
- 1.6 Flexible conduits may be used only for interconnection between point and fitting in false ceiling.
- 1.7 Telescopic rigid conduit may be used at expansion joints.
- 1.8 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 from the engineer-in-charge before execution.
- 1.9 The contractor shall make his own arrangements for temporary electricity and water connection, if required and make necessary payment including electricity and water charges for its use direct to the authority concerned. The engineer-in-charge will provide all possible assistance by way of reasonable recommendation for obtaining electricity connection to the concerned authorities but bears no responsibility for the same.
- 1.10 The contractor shall ensure that the skilled labour such as electrician, wireman 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.
- 1.11 All chases, holes, recesses etc. for conduits and other allied work shall be made good to the original finish.
- 1.12 The electrical fittings in areas of false ceiling/drop ceiling are required to be suspended/secured from ceiling with suitable hanging arrangement of galvanized iron chains / dash fasteners. The opening/ slit for fittings in false ceiling shall be provided by the agency executing the item of false ceiling. However, fixing of electrical fittings in the said opening / slit in a straight line, flush with the false ceiling shall have to be ensured by the contractor.

2.0 MATERIALS AND TESTING

- 2.1 Acceptable makes of materials to be used in the work are enclosed. In case of non-availability of these makes, the engineer-in-charge may allow use of alternative makes.

- Only ISI marked materials shall be used in the work. Non ISI marked materials may be permitted by the engineer-in-charge only when ISI marked materials are not manufactured.
- 2.2 The sample of the materials shall be submitted in advance to the engineer-in-charge and got approved before dispatch to the site of work. The contractor shall produce original invoice for procurement of electrical accessories, etc. from manufacturers or from their authorized dealers for authentication.
- 2.3 The contractor shall take prior permission from the engineer-in-charge regarding location for storage and stacking of materials required for the work at site. The cost of construction of store and watch and ward charges shall be borne by the contractors.
- 2.4 Copper wire up to 1.5 sq. mm may be of single strand whereas wires above 1.5 sq.mm shall be multi strand conductor and shall be terminated at both the ends with suitable size of copper thimbles / lugs. Nothing extra shall be paid for the same.
- 2.5 All the DBs and switch gears shall have description of circuits and sub-mains in black paint. Nothing extra shall be paid on this account.
- 2.6 Testing of electrical installations shall be completed at least 30 days before the scheduled completion date of the work so that all necessary adjustments are carried out and trial runs completed before the work is treated as complete and the equipment are taken over by the department.
- 2.7 All the electrical equipment shall be brought to site when the site is available for installation, with prior permission of the engineer-in-charge.
- 2.8 The conduits for a large number of services may be required to be laid / embedded in RCC slab/walls or fixed on surface/cable trays. To enable identification of conduits of different services proposed in the building, the ends of conduits in junction boxes shall be painted as per the following colour schemes without any extra cost.
- | | | |
|--|---|-------------|
| i) Conduits for non-essential wiring | : | Black |
| ii) Conduits for essential wiring | : | Blue |
| iii) Conduits for inverter wiring | : | Light Green |
| iv) Conduits for UPS wiring | : | Dark Green |
| v) Conduits for fire alarm system | : | Red |
| vi) Conduits for data/communication | : | Yellow |
| vii) Conduits for public address, talk back system | : | Pink |

2.9 Guarantee: - At the close of the work and before issuance of final certificate of provisional completion by the Engineer-in-charge/ Consultants, the Contractor shall furnish written guarantee indemnifying the owner against defective materials and workmanship for a period of one year after completion. The Contractor shall hold himself fully responsible for reinstallation or replacement, free of cost to owner, the following:

- a) Any defective work or material supplied by the Contractor.
- b) Any material or equipment supplied by the owner which is damaged or destroyed as a result of defective workmanship by the Contractor.
- c) Any material or equipment damaged or destroyed as a result of defective workmanship by the Contractor.

Scope of Work:

- a) Contractor shall submit the samples / catalogues of each material/ equipment giving technical data/ detail. Only after written approval of sample/ catalogues, the contractor shall place the order.
- b) Preparation of shop drawings. Contractor shall submit the detailed shop drawings after coordinating with the civil wing.
- c) Before starting of the work at site the contractor shall examine all service drawings and report to Architect/ Consultants for discrepancies and obtain clarifications. Any work done without regard of consultation with other trades, shall be removed by the contractor without additional cost to owner.
- d) Testing & commissioning of systems including submission of test report.
- e) Contractor shall submit as installed drawings, operation& maintenance manual for all equipment / operations etc. Framed operation and maintenance instructions shall be provided in plant room.
- f) Procurement of all the materials shall be done after the approval of the Engineer-in-charge.

Defect Liability period (Guarantee Period)

- 1. All the complaints have to be attended on priority basis within 24 hours otherwise a penalty of Rs 5000/- per day will be recovered for which a complaint register should be maintained by the agency which will verified and signed by Engineer –in-charge or his representative.
- 2. Necessary updates of all software should be installed free of cost when available.
- 3. System should be protected against any malwares/viruses with latest antivirus.
- 4. Agency will carry out free of cost periodic checks/repair/service of the complete system frequency of checks/repair/service will be decided by Engineer in charge for which a register should be maintained which will verified and signed by Engineer –in-charge or his representative.
- 5. Guarantee period for this work will be **5 years**, which includes free of cost replacement of defective parts. The company will be selected on the basis of this provision.
- 6. No T & P shall be issued by the department & cost of consumable materials will be borne by the contractor.
- 7. The agency should provide the Escalation matrix of the specialized agency for effective complaint resolution along with dedicated toll-free number.
- 8. **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.
- 9. **15% (Fifteen percent) of the cost of Electric Fence work** shall be retained as security deposit. Five-year maintenance and defect liability will be borne by the agency free of cost. The retained amount 15% of the cost of Electric Fence work shall be released in parts on successful completion of guarantee period as detailed below:-

- a) After 2nd year from actual date of completion: - 20% of retained amount.
- b) After 3rd year from actual date of completion: - 20% of retained amount.
- c) After 4th year from actual date of completion: - 30% of retained amount.
- d) After 5th year from actual date of completion: - 30% of retained amount.

The retained amount shall be released if the performance of defect liability and maintenance period is found satisfactory. In case the agency fails to keep the fence work in operational and do not attend the complaints the same shall be got done through other specialized agencies at the risk and cost of the contractor. The security deposit retained for guarantee period may be released in full against bank guarantee on stamp paper of Rs.100/- in favour of Executive Engineer, CED-I, CCU.

The Security deposit retained against this item of work shall be in addition to the security deposit for civil work as mentioned in the contract form.

2.10 Technical Specifications: -

1. Fence Energizer

The fence energizer shall have the following minimum features:

- 1.1 Energizer should be IP based.
- 1.2 Energizer should be Single zone with independent zone control.
- 1.3 Energizer should have Large LCD display with background colours which changes according to the status of the energizer. "Green" colour should indicate that all is fine, "orange" indicate that attention is required and "red" indicate an alarm condition.
- 1.4 Energizer should display the following information when specific codes inserted: Fence health on a scale of 1 to 9 for each the Zones independently, fence input voltages, fence return voltage, and energy stored, capacity used, fence voltage loss and battery voltage.
- 1.5 Integral power supply capable of accepting 230VAC 50 hz +-10%
- 1.6 Internal 7Ah battery backup which switches over in the event of AC failure and charge automatically on the resumption of AC supply.
- 1.7 High voltage output: 7.8 KV at 1000 ohms load
- 1.8 Low voltage output: 1.2 KV at 1000 ohms load
- 1.9 Output energy 3.7 joule with 500 ohms load
- 1.10 Pulse interval 1 sec
- 1.11 Energizer should have APT - Adaptive Power Technology functionality. The energizer should adapt automatically to changing environmental conditions on the site.
- 1.12 Individual High voltage transformer for each Zone
- 1.13 Independent high and low voltage zones
- 1.14 All HV & LV pulses shall be synchronized with each other.
- 1.15 Multiple fence energizers should be synchronized together so that fence zones located in close proximity to each others still comply with the requirements of EN60335-2-76 without the use of additional physical barrier.

- 1.16 Magnetic tag switch should be provided for on/off the energizer without keypad.
There should be a provision to disable Magnetic tag switch through keypad.
- 1.17 Energizer should have following dedicated inputs:
 - 1.17.1 Fence voltage high/low for each zone
 - 1.17.2 Panic alarm
 - 1.17.3 Gate open or close
 - 1.17.4 Energizer On/Off for each zone
- 1.18 Energizer should have following dedicated outputs:
 - 1.18.1 One 12-volt strobe light for each zone
 - 1.18.2 One 12-volt siren
 - 1.18.3 One 12 volt regulated DC secondary power source
- 1.19 Energizer should raise audible alarm in the following condition:
 - 1.19.1 Fence tampered
 - 1.19.2 Removal of fence earth connection from energizer
 - 1.19.3 Gate opened
 - 1.19.4 Energizer is in service condition
 - 1.19.5 Removal of energizer' lid
 - 1.19.6 Panic button pressed
 - 1.19.7 Low battery condition
 - 1.19.8 Battery disconnected
- 1.20 Energizer LCD should display symbols for following indication:
 - 1.20.1 Energizer is in low voltage or off
 - 1.20.2 Fence voltage is low or bad
 - 1.20.3 Fence alarm active or bypassed
 - 1.20.4 Energizer is in service or tampered condition
 - 1.20.5 Gate open or not
 - 1.20.6 Gate alarm active or bypassed
 - 1.20.7 past event for any gate/fence alarm or main fail
 - 1.20.8 energizer running on main power or battery
 - 1.20.9 battery good/low or flat indication
- 1.21 Each output shall be capable of being defined as the following:
 - 1.21.1 Audible alarm
 - 1.21.2 A red LCD backlit indication for Fence alarm
 - 1.21.3 An amber LCD backlit indication for panic alarm
 - 1.21.4 Shows fence health in good condition/on by indicating a green LCD backlit and an amber LCD backlit for check condition and a red LCD backlit for alarm condition.
 - 1.21.5 Controller idle status by a blue LCD backlit indication
- 2. Fence energizer configurable settings The following settings shall be able to be configured within each fence energizer by the supervisor**
 - 2.1 All outputs shall be programmable
 - 2.2 Independent High power fence voltage
 - 2.3 Independent Low power fence voltage
 - 2.4 Fence alarm voltage
 - 2.5 Siren-on time between 2 second to 270 sec
 - 2.6 Alarm-off time between 2 second to 270 sec
 - 2.7 Number of alarm events before re-arm adjustable between 1 event to 16 events
 - 2.8 Alarm re-arm time adjustable from 20 sec to 7.7 days
 - 2.9 The time delay for both gates to stay open before alarm adjustable from 2 second to 270 seconds.
 - 2.10 Strobe light out can be used for alarm indication or fence on/off indication

- 2.11 The magnetic tag enable/disable function
- 2.12 Battery service level/ battery auto check level selectable from 10.5 volts to 12.1 volts

3. KEYPAD

Keypad should be installed at site. Keypad should have following features:

- 3.1 Keypad should control and program energizer
- 3.2 LED indication of fence ON/OFF
- 3.3 Individual zone status
- 3.4 LED indication of fence zone/gate/service/tamper alarm
- 3.5 LED indication of fence low voltage, fence/gate alarm bypassed or active, event in history, battery indication.
- 3.6 Beeper
- 3.7 Panic alarm code
- 3.8 Separate access for user and supervisor to prevent unauthorized access
- 3.9 Local energizer control on/off
- 3.10 Backlit Keypad with adjustable brightness
- 3.11 LED indication of energizer status and fence condition.
- 3.12 Program the I/O card

4. FENCING POST SUPPORT

The support to the posts will be galvanized. Adequate number of support post will be used for holding the posts in position.

5. INSULATORS

The insulators to be used on security posts will be made up of UV Stabilized glass filled high-density polyethylene. It will have a shield to prevent arcing between wire and post. The insulators will have glossy surface to prevent accumulation of dust and facilitate cleaning.. The insulator must have a breakdown voltage of atleast 15 kV.

6. HYBRID NYLON TENSIONER

The heavy-duty nylon tensioner is a tension system and a spring all in one. This enables the wire to stay slack free thus reducing the amount of maintenance required on the fence over a long period of time.

7. LARGE TAIL HOOKS

The Large tail hooks to be used at tensioners.

8. WARNING SIGN BOARD

Yellow color double sided UV protected warning sign board (IEC 60335-2-76 compliant design) to be provided in English and Local language.

9. HIGH VOLTAGE CABLE

1 SQ mm stranded copper wire will be use for connecting zones. The inner insulation should be of Polypropylene and the outer insulation should be of High-Density Polyethylene material. The cable should withstand a high DC voltage of 15KV.

10. EARTH SPIKES

The galvanised earth spike/stake is used to earth the electric fence system. Hot dip galvanised earth spike with nuts and washer 1.2 m in length. Separate earthing system will be made for the electrified perimeter security fence system. The earthing for the fence will not be connected to the mains earthing system. The earthing system will be made highly effective particularly in difficult or dry soil conditions of the site.

11. FENCE WIRE

The Wire used for the power fence will be of minimum 2.5 mm in dia stranded in 07 strands configuration galvanized wire. It will have excellent conductivity. Resistance not more than 100 ohms/km.

12. LINE CLAMP

The line clamps are used to join and electrically connect cables, wires and poly ropes. The line clamp ensures that a good electrical connection is maintained between the joints so that the electric fence functions correctly.

*Hot Dip Galvanized

*30microns

13. FENCE LIGHT

Fence light is a warning device that tells in a flash whether the security fence is operating or not. The Fence light will flash with every energizer. Fence light will have a one directional viewing angle, allowing the light to shine into secure area only. The status will not visible to external areas. Fence light will work between 3kv to 12kv. Each zone of the security fence will have one Fence light installed.

14. LIGHTNING DIVERTER

The Double pole lightning diverter will be UV stabilized plastic housing with stainless steel plates to protect against the likelihood of power surge coming through the fence to the energizer.

15. ALARM SYSTEM

The alarm system will be AUDIO & VISUAL in nature to indicate intrusion in the protected zone. Siren will have a maximum 120dB output and Strobe lights will be visible over a distance of 100 meters when in operation.

16. HOUSING BOX

A powder coated weatherproof IP66 metal enclose with ventilation fan and canopy will be installed for housing energizer and accessories.

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	SINGLE ZONE HIGH SENSITIVE FENCE CONTROLLER	ZAUN/ ALTIMA/ BETA FENCE
2	SINGLE ZONE KEYPAD	ZAUN/ ALTIMA/ BETA FENCE
3	FENCE INSULATOR/ STRAIN INSULATOR	ZAUN/ ALTIMA/ BETA FENCE
4	TENSIONER	ZAUN/ ALTIMA/ BETA FENCE
5	SPRING HOOK, STAYS, FASTNERS, LUGS, FERULES	ANY REPUTED MAKE AS DECIDED BY ENGINEER-IN-CHARGE
6	EARTH SPIKE	ZAUN/ ALTIMA/ BETA FENCE
7	2.5 MM STRANDED G.I. WIRE	ZAUN/ ALTIMA/ BETA FENCE
8	HT CABLE	POLYCAB/ EXCEL/ RM OR EQUIVALENT
9	WARNING SIGN- DOUBLE SIDED	ZAUN/ ALTIMA/ BETA FENCE
10	SIREN- UL LISTED ONLY, WEATHERPROOF	DSC/ HONEYWELL
11	STROBE LIGHT	ZAUN/ ALTIMA/ BETA FENCE
12	FENCE LIGHT	ZAUN/ ALTIMA/ BETA FENCE
13	IP66 WATER PROOF ENCLOSURE	NETRACK/ STATIC/ NEMA/ LEGRAND
14	PVC CONDUIT AND ITS ACCESSORIES	BEC/ PRECISION/ NORPACK/ANCHOR
15	MCCB/ MCB	Schneider/ LEGRAND/ L&T

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.

SCHEDULE OF QUANTITY

(Electrical and Mechanical Works)

Schedule of Quantity					
Name of work:- Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi. (SH: - Electrical Works)					
S no	Discription	Qty	Unit	Rate	Amount
1	Supply , Installation, Testing and commissioning of fence insulators fixed at a proper spacing for proper fixing with nut & bolt above the wall i/c all related accessories/ equipments for fixing and connections etc. complete as required and as per directions of Engineer in- charge.	310	Nos.	364.00	112840.00
2	Supply , Installation, Testing and commissioning of Base Plate 4/2 inches with proper fixing with nut & bolt above the wall i/c all related accessories/ equipments for fixing and connections etc. complete as required and as per directions of Engineer-in-charge.	310	Nos.	214.00	66340.00
3	Supply , Installation, Testing and commissioning of strain insulators of suitable size and thickness with holes for proper fixing with nut & bolt above the wall i/c all related accessories/ equipments for fixing and connections etc. complete as required and as per directions of Engineer-in-charge.	30	Nos.	796.00	23880.00
4	Supply and fixing of heavy-duty Big boy Tensioner that enables the wire to stay slack free, should handle tension, i/c all related accessories/ equipments for fixing and connections etc. complete as required and as per directions of Engineer-in-charge.	30	Nos.	178.00	5340.00
5	Supply and fixing of Spring Hook, Hot dip galvanised, 6mm size, made up of stainless steel in the existing electric fence system i/c all related accessories /equipments for fixing and connections etc. complete as required and as per directions of Engineer-in-charge.	60	Nos.	52.00	3120.00
6	Supply and Fixing of Line clamp i/c all related accessories/ equipments for fixing and connections etc. complete as required and as per directions of Engineer in- charge.	120	Nos.	52.00	6240.00
7	Supply and fixing of 2.5 mm Stranded G.I. Wire stranded in 3 strands configuration galvanized wire. It will have excellent conductivity. Resistance not more than 100 ohms/km. etc. complete as required and as per directions of Engineer-in- charge.	360	Mtr.	20.00	7200.00
	Total				224960.00

Assistant Engineer (P)
CED-I, CCU, New Delhi

Executive Engineer,
CED-I, CCU, New Delhi

CIVIL CONSTRUCTION UNIT					
N.I.T. No: 03/e-NIT/EE/CED-I/CCU/2025-26					
Name of work: Providing Cement Concrete Flooring and electric fencing and misc. civil work at Indian Elephant at National Zoological Park, New Delhi.(SH: Civil and Electrical Works)					
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 Works	6,86,876/-	*	*	*
2	Electrical Works	2,24,960/-	*	*	*
	Total	9,11,836/-			

*- 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