



भारत सरकार

GOVERNMENT OF INDIA

केंद्रीय लोक निर्माण विभाग

CENTRAL PUBLIC WORKS DEPARTMENT

कार्यालय अधीक्षण अभियंता (त्रिची)

OFFICE OF THE SUPERINTENDING ENGINEER (TRICHY)

एन आई टी कैम्पस, तिरुची / NIT CAMPUS, TRICHY

Name of work: Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.

NIT

No. 26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27

Estimated cost put to tender	CIVIL :	Rs. 2,07,30,170/-
	Total :	Rs. 2,07,30,170/-
Earnest money	Rs.4,14,603/-	
Stipulated period of completion of work	10 (Ten) months	

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*Certified that this NIT contains page numbers from **1 to 131** (131) including cover pages.*

Assistant Engineer (Admin)
CPWD, Trichy - 620 015

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GOVERNMENT OF INDIA
केंद्रीय लोक निर्माण विभाग
CENTRAL PUBLIC WORKS DEPARTMENT
कार्यालय अधीक्षण अभियंता (त्रिची)
OFFICE OF THE SUPERINTENDING ENGINEER (TRICHY)
एन आई टी कैम्पस, तिरुची / NIT CAMPUS, TRICHY
NOTICE INVITING TENDER (BRIEF PARTICULARS)

NIT No.	26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27		
Name of work & Location	Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.		
Estimated cost put to tender	CIVIL :	Rs. 2,07,30,170/-	
	Total :	Rs. 2,07,30,170/-	
Earnest money	Rs.4,14,603/-		
Stipulated period of completion of work	10 (Ten) months		

All fields indicated with “ ** ” are to be filled by the Executive Engineer.

Assistant Engineer (Admin)
CPWD, Trichy - 620 015

This NIT for the above-mentioned work amounting to Rs.2,07,30,170/- (Rupees Two Crore, Seven Lakh Thirty Thousand One Hundred Seventy) is hereby approved.

Superintending Engineer (Trichy)
CPWD, Trichy - 620 015

PART-A

INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e- TENDERING

The Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015 on behalf of President of India invites online ~~Item-rate/percentage rate~~ bids from CPWD enlisted contractors of appropriate class in building (~~composite~~) category, for the following work(s):

Table 1: Brief Particulars and Timelines

1	NIT No.	26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27
2	Name of work & Location	Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.
3	Estimated cost put to tender (In Rs.)	CIVIL : Rs. 2,07,30,170/- Total : Rs. 2,07,30,170/-
4	Earnest money (In Rs.)	Rs.4,14,603/-
5	Stipulated period of completion of work	10 (Ten) months
6	Last date & time of submission of bid, copy of receipt for deposition of original EMD and other documents as specified in the bid document	01/09/2026 up to 15:00 Hrs
7	Date & time of opening of tender.	01/09/2026 on 15:30 Hrs.
9	EMD to be drawn/ pledged in favour of	The Executive Engineer, Trichy Central Division, CPWD, Trichy, Tamilnadu, CPWD, Trichy - 620 015
9a	Details of Bank Account	Name of Account Holder: The Executive Engineer, Trichy Central Division, CPWD, Trichy, Tamilnadu, CPWD, Trichy - 620 015 Name of the Bank & Branch: State Bank Of India, Tiruchirappalli. Bank Account Number: 00000030175546387 IFSC Code: SBIN0000930 PAO Code: 043951 CDDO Code: 100249

1. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he consider himself eligible and he is in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. The bid document consisting of plans, specifications, the schedule of quantities of

various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website <https://etender.cpwd.gov.in> or www.cpwd.gov.in free of cost.

4. But the bid can only be submitted after deposition of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission and uploading the mandatory scanned documents such as Insurance Surety Bonds or Account Payee Demand draft or Banker's Cheque or Fixed Deposit Receipts or/and Bank Guarantee including e-Bank Guarantee (for balance amount as prescribed) from any of the Commercial Bank towards EMD in favour of Executive Engineer as mentioned in NIT, receipt for deposition of original EMD to division office of any Executive Engineer (including NIT issuing EE/AE), CPWD and other documents as specified.
- 4.1. **Where EMD is furnished in the form of a Demand Draft or Fixed Deposit Receipt, the instrument shall:**
 - a) **be issued/purchased from the bidder's own bank account, with the name of the bidder and relevant account details clearly recorded on the instrument or certified by the issuing bank; and**
 - b) **in the case of a Fixed Deposit Receipt, be duly pledged in favour of the authority specified in the NIT, with the pledge clearly endorsed on the instrument, and shall not be subject to any other lien, pledge or claim.**
- 4.2. **The bidder may upload a Banker's Certificate in the prescribed format as supporting evidence. Such certificate shall not be mandatory where the instrument itself clearly establishes compliance with the above requirements. An instrument not duly pledged, or not establishing that it has been issued from the bidder's account, shall not be accepted and the bid shall be rejected.**
5. Those contractors who are not registered or have not updated their profile on the website mentioned above, are required to get registered/update their profile beforehand. The necessary training materials including the videos with step to step process are available on download section of <https://etender.cpwd.gov.in>.
6. The intending bidder must have valid class-III digital signature certificate with encryption key (combo type) to perform any operations / transactions on the e-tendering portal / website and the bidder should download and install the eMSigner on their system as per instructions available on download section of <https://etender.cpwd.gov.in>.
7. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of JPG format and PDF format.
9. Contractor must ensure to quote rate in the column (5) meant for quoting rate in figures appears in yellow colour and the moment rate is entered, it turns sky blue.

10. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).
11. However, If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
12. The department reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.
13. The Contractor/ bidder shall not divert any advance payments or part thereof or any other purpose other than needed for completion of the contracted work. All advance payments received as per terms of the contract are required to be re-invested in the contracted work to ensure timely availability of resources in terms of materials, labour, plant & machinery needed for the required pace of progress for timely completion of work.
14. The existing enlisted contractor either himself or his authorised representative shall take compulsory ERP (Enterprise Resource Planning) training through any of the CPWD Regional Training Institutes (RTIs) at Delhi, Mumbai, Chennai and Kolkata, National CPWD Academy (NCA) Ghaziabad; Training arranged by Graduates of ERP "Train the Trainers Programme" conducted by NCA, Ghaziabad or through any other special training arranged by ERP unit of CPWD before last date of submission of Bids. Training will be valid only when participants are registered in LMS (Learning Management System) of ERP and certificate is issued through LMS of ERP.
15. The enlisted contractor will not be allowed to participate in the tendering process without uploading the certificate of above training. The bid uploaded without attaching the certificate of ERP Training will be REJECTED.
16. The bidder shall upload an undertaking in the prescribed format regarding change/no change in constitution, partnership, directorship, name of firm, authorised signatory or any other credential after enlistment. In case any such change has taken place after enlistment, the bidder shall also upload approval/acknowledgement/order of the competent enlistment authority along with all supporting documents. Bids submitted without the prescribed undertaking shall be rejected.
17. The name of bidder, constitution of firm, PAN, GSTIN and address details shall be consistent with the enlistment and other bid documents. Any mismatch shall be supported by valid legal/official documents uploaded with the bid. Unexplained mismatch or non-submission of supporting documents shall render the bid liable to rejection.

18. Authorisation letter/Power of Attorney/Board Resolution/partnership authorisation, as applicable, in favour of the person signing/submitting the bid shall be uploaded along with the bid. The authorisation document shall clearly establish the authority of the signatory to sign and submit the bid on behalf of the bidder/firm/company/partnership/LLP. Bids submitted without valid authorisation, wherever applicable, shall be rejected.
19. Intending bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. The tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent upon any misunderstanding or otherwise shall be allowed. The tenderer 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 tender by a tenderer 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.
20. The Department may seek clarification regarding documents already uploaded by the bidder, wherever considered necessary. However, such clarification shall not confer any right on the bidder to submit fresh essential documents, replace invalid documents or cure material deficiencies after the last date and time of submission of bid.
21. The bidders shall note that, only ISI marked TMT reinforcement bars of grade Fe-500D or more conforming to **Bar Set-II** specification (as per OM No. CSQ /SE(TAS)/EE(TAD)/Steel/2021/50-H dated 17.02.2021, OM No. CSQ/SE(TAS)/Steel/2024/262-H dated 14.08.2024, and OM No. CSQ/SE(TAS)/Steel/2024/85-H dated 09.04.2025 issued by CPWD Directorate) shall be utilised in work. Bidders are advised to quote their rates accordingly.

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

- A) Insurance Surety Bond/ Demand Draft/ Account Payee Banker's Cheque / FDR/ Bank Guarantee including e-Bank Guarantee (for balance amount as prescribed) of any commercial Bank against EMD (Bank guarantee shall be in the prescribed form as given in ***FORM OF BANK GUARANTEE FOR EMD (APPENDIX-A1)***).
- B) Receipt for deposition of original EMD (***RECEIPT OF DEPOSITION OF ORIGINAL EMD (APPENDIX A3)***).
- C) Enlistment Order of the Contractor.
- D) 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 under taking (***UNDERTAKING FOR GST REGISTRATION CERTIFICATE (APPENDIX-A4)***) along with bid documents.
- E) ERP (Enterprise Resource Planning) training certificate issued through LMS of ERP of either himself or his authorised representative through any of the CPWD Regional Training Institutes at Delhi, Mumbai, Chennai and Kolkata, National CPWD Academy (NCA) Ghaziabad/ Training arranged by Graduates of ERP “Train the Trainers Programme” conducted by NCA, Ghaziabad/ Any other special training arranged by ERP Unit of CPWD.

Note: The bid uploaded without attaching the certificate of ERP Training issued through LMS of ERP will not be considered for opening of Bid and such bids will be REJECTED.

- F) Declaration about Site Inspection as per prescribed format (***DECLARATION ABOUT SITE INSPECTION (APPENDIX-A6)***).

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

- G) ***BANKER’S CERTIFICATE FOR DEMAND DRAFT / FIXED DEPOSIT RECEIPT TOWARDS EMD (APPENDIX-A2)*** for EMD submitted in the form of DD/ FDR.
- H) Undertaking regarding change/no change in constitution, partnership, directorship, name of firm, authorised signatory or any other credential after enlistment, in the prescribed format (***UNDERTAKING REGARDING CHANGE IN CONSTITUTION / PARTNERSHIP / DIRECTORSHIP / NAME OF FIRM / AUTHORISED SIGNATORY (APPENDIX-A5)***), along with approval/acknowledgement/order of the competent enlistment authority and supporting documents, wherever any such change has taken place. (***Not applicable for sole proprietorship***)
- I) Authorisation letter/ Power of Attorney/ Board Resolution/ partnership authorisation in favour of the person signing/submitting the bid. (***Not applicable for sole proprietorship***)

GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT
OFFICE OF THE EXECUTIVE ENGINEER (E&M)(TRICHY)
NIT CAMPUS, THUVAKUDI, TRICHY - 620 015

No. 69(1)/**

Dated: **/**/****

NOTICE INVITING e-TENDER

The Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015 on behalf of President of India invites online ~~Item-rate/percentage rate~~ bids from CPWD ~~enlisted contractors of appropriate class in building (composite) category~~, for the following work(s):

1	NIT No.	26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27
2	Name of work & Location	Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.
3	Estimated cost put to tender (In Rs.)	CIVIL : Rs. 2,07,30,170/- Total : Rs. 2,07,30,170/-
4	Earnest money (In Rs.)	Rs.4,14,603/-
5	Stipulated period of completion of work	10 (Ten) months
6	Last date & time of submission of bid, copy of receipt for deposition of original EMD and other documents as specified in the bid document	01/09/2026 up to 15:00 Hrs
7	Date & time of opening of tender.	01/09/2026 on 15:30 Hrs.

The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website <https://etender.cpwd.gov.in> or www.cpwd.gov.in free of cost.

Executive Engineer (Trichy) - I
CPWD, Trichy - 620 015

Copy for information to:

1. The Superintending Engineer (Trichy), CPWD, NIT Campus, Trichy - 15.
2. The Executive Engineer (E&M), CPWD, NIT Campus, Trichy - 15.
3. Notice Board.

Executive Engineer (Trichy) - I

CPWD-6 FOR e-TENDERING

- 1 ~~Item rate/percentage rate~~ tenders are invited on behalf of President of India from CPWD enlisted contractors of appropriate class in building (composite) category for the work of "Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy."

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

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

- 1.1 The work is estimated to cost `2,07,30,170/-. This estimate, however, is given merely as a rough guide.
- 1.1.1 The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the tenders. He will also nominate Division which will deal with all matters relating to the invitation of tenders. For composite bid, besides indicating the combined estimated cost put to bid, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.

~~1.2 Intending tenderer is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-~~

~~Criteria of eligibility for submission of tender documents~~

~~1.2.1 Conditions for Non-CPWD registered contractors only, if bids are also open to non-CPWD contractors.~~

~~For works estimated cost upto tendering limit of class -1 Building & Roads (erstwhile Composite/ Building/ infrastructure) category Contractor (However, for Horticulture it may be modified as per bidding limit of CPWD class I contractors of Horticulture category).~~

~~Three similar works each of value not less than Rs. ***/- or two similar work each of value not less than Rs. ***/- or one similar work of value not less than Rs. ***/- (all figures rounded to nearest convenient figure) during the last 7 years ending last day of the month previous to the one in which tenders are invited).~~

~~Note:-~~

~~For works costing above tendering limit of class -II Building & Roads (erstwhile Composite/Building/infrastructure) category Contractors but upto tendering limit of class-I category Contractor (However, for Horticulture category, it may be modified as per bidding limit of CPWD class II and CPWD Class I~~

~~contractors respectively of Horticulture category) when bids are open to non-CPWD contractors also, then class II contractors of CPWD registered shall also be eligible if they satisfy the eligibility criteria specified in 1.2.1 above.~~

~~1.2.2 Criteria of eligibility for CPWD as well as non-CPWD contractors.~~

~~For works estimated to cost above the tendering limit of class -I (Super) Buildings & Roads (erstwhile Composite/ Building/ infrastructure) category Contractor (However for Horticulture category, it may be modified as per bidding limit of CPWD class I contractors of Horticulture Category).~~

~~Three similar works each of value not less than Rs. ***/- or two similar work each of value not less than Rs. ***/- or one similar work of value not less than Rs. ***/- (all figures rounded to nearest convenient figure) during the last 7 years ending last day of the month previous to the one in which tenders are invited).~~

~~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 previous day of last day of submission of bid.~~

~~To become eligible for issue of bid, the bidders shall have to furnish an affidavit as under:-~~

~~I/We undertake and confirm that eligible similar works(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 bidding in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee (Scanned copy to be uploaded at the time of submission of bid).~~

~~1.2.3 When bids are invited from non CPWD contractors and CPWD class II contractors as per provisions of clause 1.2.1 above, it will be mandatory for non CPWD contractors and CPWD class-II contractors to upload the work experience certificate(s) and the affidavit as per the provisions of clause 1.2.2.~~

~~But for such bids, Class-I contractors of CPWD are eligible to submit the bids without submission of work experience certificate and affidavit. Therefore, CPWD class-I contractors shall upload two separate letters for experience certificate and affidavit that these documents are not required to be submitted by them. Uploading of these two letters is mandatory otherwise system will not clear mandatory fields.~~

- 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 10 (Ten) 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 tender documents.

- 4 (i) The site for the work shall be made available as specified in **Table 2: Schedule of handing over of site**

~~(ii) The architectural and structural drawing for the work is available /~~ The architectural and structural drawings shall be made available in phased manner, as per requirement in consideration of the 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 or withdraw it before last date and time of submission of bid as notified. No post-tender modification is allowed by the tenderers except through negotiations, if required. In case, any tenderer does so, the tender will be rejected and the tenderer will be debarred for future tendering in CPWD for two years by the concerned enlisting authority (in case of CPWD enlisted contractor) and by the concerned CE/SE (in case of non-enlisted contractor).
- 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 tender as notified.
- 8 When tenders 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 tender submitted earlier shall become invalid.
- 9 Earnest Money in the form of Insurance Surety Bonds or Account Payee Demand Draft, Fixed Deposit Receipt, Bankers Cheque or Bank Guarantee including e-Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks (**drawn in favour of The Executive Engineer, Trichy Central Division, CPWD, Trichy, Tamilnadu, CPWD, Trichy - 620 015**) 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 the stipulated bid validity period or immediately after acceptance of the successful bidder, whichever is earlier. However, in case of two/ three bid system, earnest money deposit of bidders unsuccessful during technical bid evaluation etc. should be returned within 30 days of declaration of result of technical bid evaluation.

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

The bid submitted shall be opened at 15:30 Hrs on 01/09/2026.

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 as mentioned in Schedule E and within the period specified in Schedule F. This guarantee shall be in the form of Insurance Surety Bonds or Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule F, including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. The contractor whose bid is accepted will also be required to furnish either copy of

applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. If applicable and also ensure the compliance of aforesaid provisions by the sub contractors, if any engaged by the contractor for the said work within the period specified in Schedule F.

- 12 The description of the work is as per PART-A, BRIEF PARTICULARS AND SCOPE OF THE PROJECT.

Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidders 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 tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
- 14 Canvassing whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to 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 tender and the tenderer shall be bound to perform the same at the rate quoted.
- 16 The contractor shall not be permitted to tender for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in the Central Public Works Department or in the Ministry of 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 gazette Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.
- 18 The bid for the works shall remain open for acceptance for a period of thirty (30) days from the date of opening of bids in case of single bid system/~~seventy five (75) days from the date of opening of technical bids in case bids are invited on 2 or 3 bid system.~~

Further,

- (i) If any tenderer withdraws his tender or make any modification in the terms & conditions of the tender which is not acceptable to the department within 7 days after last date and time (24 hours basis) of submission of bids, then the government shall without prejudice to any other rights 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 make any modification in the terms & conditions of the tender which is not acceptable to the department after expiry of 7 days after last date and time (24 hours basis) of submission of bids, then the Government shall without prejudice to any other rights 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) Withdrawal of the tender, by the tenderer, shall only be made through e-tender portal. Any other method i.e., letter / e-mail etc. shall not be considered. The tender inviting authority gets intimation through SMS and e-mail in this regard.
 - (iv) In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the same work.
- 19 This notice inviting Bid shall form a part of the contract document. The successful bidders/ contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
- (i) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates

quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

- (ii) Standard C.P.W.D. Form 7/8 or other Standard C.P.W.D. Form as applicable.

20 For Composite Tenders

~~20.1.1 The Executive Engineer in charge of the major component will call bids for the work. The cost of bid document and Earnest Money will be fixed with respect to the estimated cost put to tender for the bid.~~

~~20.1.2 The bid document shall include the following parts:~~

~~PART-A: CPWD-6, CPWD-7/8 including schedule A to F for the major component of the work, Standard General Conditions of Contract for CPWD 2023 as amended/modified up to date.~~

~~PART-C: General / specific conditions and specifications applicable to major component of the work.~~

~~PART-C: Schedule of quantities applicable to major and minor component(s) of the work, Financial Bid.~~

~~20.1.3 The bidders must associate himself, with agencies as per NIT conditions~~

~~20.1.4 The eligible bidders shall quote rates for all items of major component as well as for all items of minor components of work.~~

~~20.1.5 After acceptance of the bid by competent authority, the EE in charge of major component of the work shall issue letter of award on behalf of the President of India. After the work is awarded, the main contractor will have to enter into one agreement with EE incharge of major component and has also to sign two or more copies of agreement depending upon number of EE's/DDH incharge of minor components. One such signed set of agreement shall be handed over to EE/DDH incharge of minor component(s).~~

~~EE of major component will operate PART-A and PART-C of the agreement along with schedule of quantities and other provisions relating to the major component.~~

~~20.1.6 Entire work under the scope of composite tender including major and all minor components shall be executed under one agreement.~~

~~20.1.7 Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works.~~

~~20.1.8 The main contractor has to associate agencies for specialized components (s) conforming to eligibility criteria as defined in the bid document and has to submit detail of such agency(s) to Engineer-in-charge of relevant component(s).within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer-in-charge of relevant component(s).~~

~~20.1.9 — In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-charge of relevant specialized component(s).~~

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

~~20.1.10 — The main contractor has to enter into MoU with agencies contractor(s) associated by him. Copy of such MoU shall be submitted to EE/ DDH in charge of each relevant component as well as to EE incharge of major component. In case of change of associate contractor, the main contractor has to enter into MoU/agreement with the new contractor associated by him.~~

~~20.1.11 — Running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer- in-charge of the discipline of minor component directly to the main contractor. The CMB shall be maintained independently by the Engineer-in-Charge of major and minor components.~~

~~(A) — The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Engineer-in-charge of major component after record of completion certificate of all other components.~~

~~(B) — Final bill of whole work shall be finalized and paid by the EE of major component. Engineer(s) in charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.~~

Executive Engineer (Trichy) - I
CPWD, Trichy - 620 015

APPENDICES OF FORMS FOR e-TENDERING

FORM OF BANK GUARANTEE FOR EMD (APPENDIX-A1)

[On non-judicial stamp paper of minimum Rs.200]

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

- 21 Whereas the Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015, on behalf of the President of India (here in after called "The Government") has invited bids under 26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27 dated **/**/**** for Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy. The Government has further agreed to accept irrevocable Bank Guarantee for Rs. (Rupees only) in favour of The Executive Engineer, Trichy Central Division, CPWD, Trichy, Tamilnadu, TCD, Trichy - 620 015 valid upto (date as Earnest Money Deposit from (name and address of contractor) (herein after called "the contractor") for compliance of his obligations in accordance with the terms and conditions of the said NIT.
- 22 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.
- 23 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).
- 24 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.
- 25 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.

- 26 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.
- 27 This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
- 28 We, (indicate the name of the Bank), undertake not to revoke this guarantee except with the consent of the Government in writing.
- 29 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:

Authorised signatory

1. Signature

Name and address

Name

Designation

2. Signature

Staff code no.

Name and address

Bank seal

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

BANKER'S CERTIFICATE FOR DEMAND DRAFT / FIXED DEPOSIT
RECEIPT TOWARDS EMD (APPENDIX-A2)

[On Bank's Letter Head]

Date: _____

To
Executive Engineer (Trichy) - I
CPWD, Trichy - 620 015

Subject: Banker's Certificate for Demand Draft / Fixed Deposit Receipt towards EMD for the work "Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy."

Dear Sir/Madam,

This is to certify that M/s/Shri/Smt. _____, having Bank Account No. _____ with our branch, has obtained the following instrument from this Bank towards Earnest Money Deposit for participation in the tender mentioned below:

S.N.	Particulars	Details
1.	Name of Work	Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.
2.	NIT No.	26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27
3.	Name of Bidder/Agency	_____
4.	Name of Account Holder	_____
5.	Bank Account No. debited	_____
6.	Type of Instrument	Demand Draft / Fixed Deposit Receipt
7.	Instrument No.	_____
8.	Date of Instrument	_____
9.	Amount	₹ _____
10.	Amount in words	Rupees _____ only
11.	Instrument drawn/issued in favour of	_____
12.	Valid up to / Maturity date	_____
13.	Payable at, if applicable	_____

We certify that the above-mentioned **Demand Draft / Fixed Deposit Receipt** has been issued by debiting Bank Account No. _____ standing in the name of _____, maintained with our branch.

The instrument has been issued at the request of the above account holder/bidder for submission towards Earnest Money Deposit for the above-mentioned tender.

Additional confirmation in case of Demand Draft

(In case the above instrument is a Demand Draft)

We certify that the Demand Draft bearing No. _____ dated _____ for ₹_____ has been issued in favour of **The Executive Engineer, Trichy Central Division, CPWD, Trichy, Tamilnadu, CPWD, Trichy - 620 015** and is payable as mentioned above.

Additional confirmation in case of Fixed Deposit Receipt

(In case the above instrument is a Fixed Deposit Receipt)

We further certify that the Fixed Deposit Receipt bearing No. _____ dated _____ for ₹_____ stands pledged/lien marked in favour of **The Executive Engineer, Trichy Central Division, CPWD, Trichy, Tamilnadu, CPWD, Trichy - 620 015** towards Earnest Money Deposit for the above-mentioned tender.

We further confirm that:

1. The above Fixed Deposit Receipt cannot be withdrawn, cancelled, closed, transferred or encashed by the depositor without written consent of CPWD.
2. In the event of default, non-compliance or violation of tender conditions by the bidder, CPWD shall be entitled to invoke and encash the Fixed Deposit Receipt directly from the Bank, without reference or notice to the depositor.
3. The claim made by CPWD shall be honoured by the Bank on demand, up to the amount available under the said Fixed Deposit Receipt.
4. This endorsement shall remain valid until its release by CPWD.

This certificate is issued at the request of our customer for submission to CPWD in connection with the above tender.

Yours faithfully,

For _____ **Bank**

Signature: _____

Name of Authorized Signatory: _____

Designation: _____

Branch: _____

IFSC Code: _____

Branch Contact No./Email: _____

Seal & Stamp of Bank

Note: Strike out whichever is not applicable, i.e. Demand Draft or Fixed Deposit Receipt. This certificate shall be issued on the letterhead of the issuing Bank and shall bear the signature, name, designation, branch details, contact details and seal of the authorized bank official.

RECEIPT OF DEPOSITION OF ORIGINAL EMD (APPENDIX A3)

(Receipt No..... dated)

1.	Name of Work :	Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.
2.	NIT No:	26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27
3.	Estimated Cost:	Rs.2,07,30,170/-
4.	Amount of Earnest Money Deposit:	Rs.4,14,603/-
5.	Last date of submission of bid:	01/09/2026

[To be filled by The EXECUTIVE ENGINEER receiving the EMD]

1.	Name of Contractor:	
2.	Form of EMD:	
3.	Amount of EMD:	
4.	Date of Submission of EMD:	
5.	Email ID of EMD receiving officer	
6.	Mobile No. of EMD receiving officer	

Signature, Name and Designation of EMD
receiving Officer along with Office Stamp

UNDERTAKING FOR GST REGISTRATION CERTIFICATE (APPENDIX-A4)

To

The Executive Engineer (Trichy) - I

CPWD, Trichy - 620 015

Name of Work: Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.

NIT No.: 26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27

Dear Sir,

Having examined the details given in the bid document for the above work, I/we hereby submit that we are not having GST registration as applicable, hence we here by undertake the following:

“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.”

Signature of Bidder(s) or

An authorized Officer of the firm with stamp & seal

**UNDERTAKING REGARDING CHANGE IN CONSTITUTION / PARTNERSHIP /
DIRECTORSHIP / NAME OF FIRM / AUTHORISED SIGNATORY (APPENDIX
-A5)**

[To be submitted on the letterhead of the bidder]

Date: _____

To

Executive Engineer (Trichy) - I

CPWD, Trichy - 620 015

Subject: Undertaking regarding change in constitution/credentials after enlistment

Name of Work: Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.

NIT No.: 26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27

I/We, M/s/Shri/Smt. _____, having registered office at _____, do hereby solemnly affirm and declare as under:

1. That I/we am/are enlisted with CPWD vide Enlistment Order No. _____ dated _____, valid up to _____, in Class/Category _____.
2. That the present constitution/status of the bidder is as under:

S.N. Particulars	Details
1. Name of bidder/firm/company	_____
2. Constitution	Proprietorship / Partnership / LLP / Company / Other
3. Name of proprietor/ partners/ directors/ designated partners	_____
4. Name of authorised signatory	_____
5. PAN	_____
6. GSTIN	_____
7. Registered address	_____

3. That after the date of enlistment / latest renewal / latest modification of enlistment, there has been:

[Stricke off whichever is not applicable]

No change in the constitution, partnership, directorship, name of firm, authorised signatory, ownership, management or any other credential of the bidder.

OR

Change in the constitution, partnership, directorship, name of firm, authorised signatory, ownership, management or other credential of the bidder. The details of such change are as under:

S.N.	Nature of change	Date of change	Supporting document uploaded
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

4. In case of change, I/we confirm that approval/acknowledgement/order of the competent enlistment authority and all supporting documents have been uploaded along with the bid.
5. I/We further declare that the details submitted in the bid, including name of bidder, constitution, PAN, GSTIN, address, enlistment particulars and authorised signatory details, are true, correct, valid and consistent with the documents uploaded.
6. I/We understand that if any information furnished above is found to be false, incorrect, suppressed or inconsistent with the bid documents, the bid shall be liable to rejection and further action may be taken by the Department as per applicable rules.

Place: _____

Date: _____

Signature of Bidder / Authorised Signatory: _____

Name: _____

Designation: _____

Name of Firm/Agency: _____

Seal/Stamp of Firm/Agency

DECLARATION ABOUT SITE INSPECTION (APPENDIX-A6)

To

The Executive Engineer (Trichy) - I

CPWD, Trichy - 620 015

Name of Work: Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.

NIT No.: 26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27

Dear Sir,

It is hereby declared that I/ We, the bidder have inspected and examined the subject site and its surrounding and satisfy myself/ ourselves 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 which may be required and all necessary information as to risks, contingencies and other circumstances which may influence or affect my/ our bid.

I/ We, the bidder shall be responsible for arranging and maintaining at 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 me/us implies that I / We have read this notice and all other contract documents and has made myself /ourselves aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of the work.

I/ We, the bidder have full knowledge of the site and no extra charges consequent upon any misunderstanding or otherwise shall be claimed at a later date.

Yours faithfully,

(Duly authorized signatory of the bidder)

GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT

Percentage Rate Tender/~~Item-Rate Tender~~ & Contract for Works

(A) Tender for the work of:- **Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.**

(i) To be uploaded by **01/09/2026 up to 15:00 Hrs Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015.**

(ii) To be opened in presence of tenderers who may be present at **15:30 Hrs on 01/09/2026** in the office of **Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015.**

TENDER

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

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

I/We agree to keep the tender open for thirty (30) days from the due date of its opening in case of single bid system/ ~~seventy five (75) from the date of opening of technical bid in case tenders are invited on 2/3 bid system for specialised work~~ and not to make any modification in its terms and conditions.

I/We have deposited EMD for the prescribed amount in the office of concerned Executive Engineer as per the bid document.

A copy of earnest money in receipt of prescribed amount deposited in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by a Commercial Bank, is scanned and uploaded (strike out as the case may be). If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/ We agree that President of India or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said

performance guarantee absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

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

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

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived therefrom 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 of the State.

Dated:

Witness:

Signature of Contractor

Address:

Postal Address

Occupation:

ACCEPTANCE

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

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

(a)

(b)

(c)

Dated:

For & on behalf of President of India

Signature

Designation: Executive Engineer (Trichy) - I

BRIEF PARTICULARS AND SCOPE OF THE PROJECT

1. Salient details of the work for which bids are invited are as given in **Table 1: Brief Particulars and Timelines**.
2. The work is situated at **OFT Campus, Trichy**.
3. Work shall be executed according to General Conditions of Contract for Central P.W.D. Works available separately at printer's outlets.
4. The Address of the officers of the CPWD connected with this work are given below:
 - a) **Executive Engineer (Trichy) - I**
CPWD, NIT Trichy Campus
Thuvakudi, Trichy - 620 015

General features and major components of the work are as under :-

Scope of Work (Civil):

Providing and laying of NP3 class RCC sewer pipes of **150 mm and 300 mm** diameter for branch and main sewer lines, including all necessary joints, fittings, testing and incidental works, complete in all respects. PCC bedding and sand filling shall be provided only at the portions of sewer pipelines crossing existing roads. Providing and constructing brick masonry manholes of internal sizes **90 × 80 cm and 120 × 80 cm**, and circular manholes of **91 cm and 122 cm** internal diameter, as applicable, for connecting the main and branch sewer lines, including required depth, benching, channels, plastering and allied works. External plastering shall be provided to the portions of brick masonry manholes exposed above ground level. Suitable vent pipes shall be provided at manhole junctions and intermediate manholes, including all necessary fittings and connections. Providing and fixing safety footrests inside manhole chambers at required intervals. Demolition of existing manhole cover slabs and subsequent closure/filling of the openings using available excavated earth, including necessary compaction and making good the affected surface. Demolition of existing CC pavement and PCC base at road-crossing locations of sewer lines and reinstatement of the same with RCC as the top layer, including all necessary reinforcement, shuttering, concreting, curing and finishing works. Dismantling/demolition of existing rubble stone masonry compound wall at two locations of sewer line crossings and reconstruction/restoration of the same to its original line, level and profile. Dismantling/removal of existing kerb stones at road-crossing locations and providing and fixing new kerb stones, including alignment, jointing, finishing and external paint finish. Provision for replacement of damaged gully chambers and SWR Type-B UPVC pipes from the gully trap (GT) up to the immediate manhole, including vent pipes and necessary fittings, connections and allied works wherever required. Providing **100 mm thick GSB base** and laying of paver blocks for designated hardstanding portions, including preparation, leveling, compaction, bedding, joint filling and finishing. The scope shall also include collection, loading, transportation and disposal of all available malba, debris, dismantled materials, surplus excavated earth and other construction waste at an approved disposal location, as well as all incidental, ancillary and associated works necessary for complete execution and satisfactory functioning of the sewerage system, in accordance with the approved drawings, applicable CPWD specifications, relevant Indian Standards, contract provisions and instructions of the Engineer-in-Charge.

**PARTICULAR SPECIFICATIONS AND SPECIAL CONDITIONS FOR ALL
COMPONENTS OF WORK**

I) GENERAL

1. General conditions:

- 1.1. The tenderer should in his own interest visit the sites and familiarise himself with the site conditions before tendering.
- 1.2. The Contractor shall carry out the work in such a manner so as not to interfere or affect or disturb other works being executed by other agencies if any.
- 1.3. For completing the work in time, the contractor might be required to work in two or more shifts (including night shifts).

2. Applicability:

- 2.1. These conditions shall apply to the entire work, including all major, minor and specialised components.
- 2.2. Unless the context otherwise requires, the term “Engineer-in-Charge” in this Part shall mean the Engineer-in-Charge of the respective component of the work.
- 2.3. These conditions shall be read together with:
 - a) CPWD-6 and CPWD-7/8;
 - b) General Conditions of Contract;
 - c) Schedule A to F;
 - d) Schedule of Quantities;
 - e) applicable CPWD Specifications;
 - f) particular, additional and technical specifications;
 - g) tender and approved drawings;
 - h) statutory requirements; and
 - i) other documents forming part of the agreement.

3. Supplementary nature of particular specifications:

- 3.1. The particular, additional and technical specifications included in the agreement shall supplement the applicable CPWD Specifications.
- 3.2. Requirements already covered by the applicable CPWD Specifications shall apply notwithstanding that they have not been repeated in the tender document.
- 3.3. Where any provision of the particular or additional specifications expressly modifies or supplements the applicable CPWD Specifications, the particular or additional provision shall apply to the extent of such modification or addition, subject to the order of precedence specified in the agreement.

4. Rates Taxes And Duties:

- 1.1. The work shall be treated as on works contract basis and the rates tendered shall be for complete items of works inclusive of all taxes (including works contract tax), duties, and levies etc. and all charges for items contingent to the work, such as packing, forwarding, insurance, freight and delivery, installation, testing, commissioning etc at site i/c temporary constructional storage, risk, overhead charges, general liabilities/ obligations etc.
- 1.2. GST for the work shall be included within the quoted rates for the various items.
- 1.3. All statutory deductions like GST, Building and other construction workers welfare cess etc at applicable rates will be made from the Contractors bill.

2. Inclusions in quoted rates:

- 2.1. Unless separate payment is expressly provided in the Schedule of Quantities or elsewhere in the agreement, the quoted rates shall include the complete cost of complying with all applicable provisions of the agreement, whether or not such requirements are repeated in the description of individual items.
- 2.2. The quoted rates shall include all labour, materials, tools and plants, transportation, loading, unloading, handling, storage, protection, temporary facilities, testing arrangements, safety measures, supervision, coordination and incidental operations reasonably necessary for proper execution and completion of the work.
- 2.3. No additional payment shall be admissible merely because any ordinary accessory, fitting, fixing arrangement, connection or minor incidental operation has not been separately described, provided that it:
 - a) is reasonably inferable from the item description, drawings or specified performance;
 - b) is ordinarily necessary for completing the item; and
 - c) does not constitute a change in design, specification, capacity, quantity or scope.
- 2.4. Materials and equipment shall be brought to site in accordance with the approved procurement and execution programme. Premature, excessive or unapproved delivery shall not create any entitlement to secured advance, payment or extension of time. Payment shall be governed by the applicable provisions of the agreement.
- 2.5. The Contractor shall deploy the manpower, plant, equipment, supervision and shifts, including night shifts where necessary, required to comply with the approved programme, subject to statutory and site restrictions. Costs arising from the Contractor's method of working or from recovery of delay attributable to the Contractor shall be included in the quoted rates.
- 2.6. The quoted rates shall include the cost of complying with all site

conditions and restrictions reasonably ascertainable by inspection before submission of the tender. No extra payment shall be admissible on account of the Contractor's failure to acquaint himself with such conditions.

- 2.7. The quoted rates shall include the cost of coordination, sequencing, protection, temporary arrangements and making good required for carrying out the work concurrently with works executed by other agencies.

3. Reduction in scope:

- 3.1. No claim for loss of expected profit, unabsorbed overheads or consequential loss shall be admissible merely on account of reduction or deletion of any portion of the work.

4. Discrepancies and ambiguities:

- 4.1. The Contractor shall examine and correlate the Schedule of Quantities, specifications, drawings and other agreement documents before procurement or execution.
- 4.2. Any discrepancy, ambiguity, omission or inconsistency noticed by the Contractor shall be brought to the notice of the Engineer-in-Charge in writing before proceeding with the affected work.
- 4.3. The Contractor shall not make any deviation from the agreement documents without written approval of the competent authority.
- 4.4. Approval of any drawing, material, equipment, programme, method statement or submission shall not relieve the Contractor of responsibility for compliance with the agreement.

II) APPLICABLE CODES, STANDARDS AND STATUTORY REQUIREMENTS

1. Applicable specifications and standards:

- 1.1. The work shall be executed in accordance with the specifications, codes, standards, rules and regulations specified in Schedule F and in the respective parts of the tender document.
- 1.2. Reference to any specification, code or standard shall mean the edition specified in the tender document together with amendments and correction slips applicable up to the date specified in the agreement.
- 1.3. Where no edition is specifically stated, the edition applicable as on the last date of submission of the tender shall apply.
- 1.4. Applicable requirements shall include, wherever relevant:
- a) National Building Construction Standards 2026;
 - b) Indian Standards published by the Bureau of Indian Standards;
 - c) applicable CPWD Specifications;
 - d) statutory rules and regulations;

- e) requirements of local bodies and statutory authorities; and
- f) manufacturer's instructions where not inconsistent with the agreement.

1.5. Accessibility requirements

Buildings, external development and installations forming part of the work shall comply with the applicable statutory accessibility and barrier-free design requirements, provisions of the National Building Construction Standard and accessibility standards specified in the agreement and approved drawings.

2. Conflict between requirements:

- 2.1. In case of discrepancy between different agreement documents, the order of precedence specified in the agreement shall apply.
- 2.2. Where two applicable statutory or technical requirements cannot be reconciled, the Contractor shall refer the matter to the Engineer-in-Charge before procurement or execution.
- 2.3. No undefined requirement shall automatically be interpreted as requiring the least expensive material, method or performance standard.

3. Public-procurement requirements:

- 3.1. If the contractor proposes to supply finished goods procured directly or indirectly from vendors, from the countries sharing land border with India, such vendor will be required to be registered with the competent authority under Government of India. Such procurement shall be accepted only on furnishing the details of such registration.
- 3.2. Materials and equipment covered by the Public Procurement (Preference to Make in India) Order, 2017, as amended, shall comply with the prescribed minimum local-content requirement. The Contractor shall furnish certificates, declarations and supporting documents required to establish compliance with the applicable public-procurement requirements.

4. Statutory approvals and clearances:

- 4.1. The Contractor shall identify and comply with all statutory approvals, permissions, inspections, licences and clearances applicable to the execution, testing, commissioning and operation of the work.
- 4.2. Prior to commencement of work, all applicable statutory clearances required for taking up the work shall be obtained by the contractor.
- 4.3. After completion of the work, the completed installation shall be offered for inspection to inspectors of the relevant statutory authorities.
- 4.4. The Contractor shall prepare and submit all necessary:
 - a) applications and forms;
 - b) drawings and calculations;
 - c) equipment particulars;
 - d) test certificates and reports;

- e) declarations and undertakings; and
 - f) other documents required by the concerned authority.
- 4.5. Where any application, declaration, undertaking or document is required to be submitted or signed by the owner, client, department or its authorised representative, the Contractor shall prepare the complete documentation and provide all necessary assistance. The owner/client/department shall provide only such ownership documents and signatures as are mandatorily required to be furnished by them under law.
- 4.6. The Contractor shall coordinate with the concerned authorities and provide all necessary assistance during scrutiny, inspection, testing and demonstration of the installation.
- 4.7. Such assistance shall include provision of manpower, tools, test instruments, temporary connections, consumables, records and demonstrations.
- 4.8. The work or installation shall not be commissioned or put into regular use until the statutory approvals specifically required before commissioning have been obtained.
- 4.9. The Contractor shall be fully responsible for obtaining all required statutory approvals and the work shall be treated as complete only upon receipt of all such approvals in final form.
- 4.10. Statutory approvals shall include completion certificates, occupancy certificates, fire approvals, electrical safety approvals, lift licences, pollution-control approvals, water and sewerage approvals and other permissions required before occupation or regular use.

5. Allocation of statutory fees and incidental expenses:

- 5.1. Unless otherwise specifically provided in the Schedule of Quantities:
- a) statutory application, scrutiny, inspection, licence or approval fees payable directly to a Government or statutory authority for a permanent installation or service connection in the name of the Department or owner shall be paid by the Department or reimbursed to the Contractor on production of proof of payment;
 - b) charges for preparation of documents, liaison, coordination, attendance during inspections, testing, demonstration, manpower, instruments and incidental expenses shall be included in the Contractor's quoted rates;
 - c) registration fees, licences, permissions, security deposits and charges required for the Contractor's own establishment, labour, machinery, temporary utilities or execution arrangements shall be borne by the Contractor; and
 - d) penalties, reinspection fees or additional charges arising from delay, default or non-compliance attributable to the Contractor shall not be reimbursed.

5.2. The Contractor shall obtain prior approval of the Engineer-in-Charge before making any payment for which reimbursement is claimed.

6. Rectification required by statutory authorities:

6.1. Observations arising from non-compliance with the agreement, approved drawings, applicable standards or statutory requirements existing on the last date of submission of the tender shall be attended to by the Contractor without additional payment.

6.2. A requirement arising solely from:

- a) a subsequent change in law or statutory requirement;
- b) a change in the approved design basis; or
- c) an alteration in scope ordered by the Department,

6.3. shall be dealt with under the applicable provisions of the GCC.

III) SITE ESTABLISHMENT

1. General:

1.1. The Contractor shall establish and maintain the temporary facilities necessary for safe, orderly and timely execution of the work.

1.2. Unless separate payment is expressly provided, the cost of the applicable facilities specified under this section shall be included in the quoted rates.

1.3. The facilities specifically stated as applicable in the Site Establishment Schedule shall be required for the particular work.

2. Site Establishment Schedule

S. N.	Facility or arrangement	Applicability and requirement
1	Contractor's site office, stores and work areas	Shall be provided and maintained by the Contractor as required for execution of the work
2	Site testing laboratory	A site laboratory with the minimum equipment as specified in CPWD specifications and in this bid document shall be established, made functional and maintained within one month from the award of work.
3	Temporary water supply	Shall be arranged by the Contractor
4	Temporary electrical supply	Shall be arranged by the Contractor

S. N.	Facility or arrangement	Applicability and requirement
5	Temporary drainage and sewage disposal	Shall be provided and maintained by the Contractor as required
6	Storage and fabrication areas	Shall be provided and maintained by the Contractor as required and approved
7	PPE for Departmental officers and authorised visitors	The contractor shall make arrangement for Helmets and safety leather shoes (meant of construction work at site) for all field staff of the department during the entire period of construction for safety reasons. One helmet and two pairs of shoes per staff member (maximum five members) of the department per year shall be arranged by the contractor.
8	Temporary access roads, ramps, openings in compound wall and other access provisions	Shall be provided and maintained by the Contractor at his own cost
9	Any other temporary facility	-

S. N.	Facility or arrangement	Applicability and requirement
10	GIS & GPR SURVEY	Considering the presence of multiple existing underground utilities and services at OFT, Trichy, the contractor shall carry out a comprehensive GIS mapping and Ground Penetrating Radar (GPR) survey prior to execution of works related to the. Replacement of outlived Sewer line with NP3 pipes portions/ areas. The survey shall cover the entire proposed alignment, footprints of structures and excavation zones, and shall identify existing underground utilities including, but not limited to, water supply lines, sewer lines, storm water drains, electrical cables, communication cables, fuel lines and any other buried services. The GIS-GPR survey results shall be properly geo-referenced, plotted on drawings and submitted to the Engineer-in-Charge for approval prior to commencement of excavation or construction activities. All alignments and construction methodologies shall be finalized only after due consideration of the survey findings. Any damage to existing underground services due to non-conducting, inadequate interpretation or non-compliance with the approved survey data shall be the sole responsibility of the contractor, and all rectification shall be carried out at the contractor's risk and cost, without any claim for extra payment or extension of time. No excavation or trenching work shall be permitted unless the GIS-GPR survey is completed, approved and clearance is obtained from the Engineer-in-Charge. After completion of the work, the contractor shall prepare a GIS survey map indicating all project installations, pipeline networks, and related services within the defined scope of work, with accurate coordinates and asset attributes as part of completion drawings. The cost of conducting the GIS and GPR survey, data processing, reporting and coordination shall be deemed to be included in the quoted tender amount and nothing extra will be paid in this regard.

3. Site layout:

3.1. Before commencement of substantial work, the Contractor shall submit a site-establishment layout indicating, as applicable:

- a) site offices;
- b) access and circulation;
- c) storage areas;
- d) fabrication areas;
- e) testing laboratory;
- f) plant and machinery;
- g) temporary utilities;

- h) waste-storage areas;
- i) safety arrangements; and
- j) emergency access.

3.2. The site layout shall be subject to approval of the Engineer-in-Charge.

3.3. Approval of the layout shall not relieve the Contractor of responsibility for safety, adequacy, statutory compliance or coordination.

4. Temporary services:

4.1. Unless otherwise specified, the Contractor shall arrange temporary water, electricity, telephone, internet, drainage and other services required for the work.

4.2. The Contractor shall bear all costs relating to:

- a) permissions and applications;
- b) deposits and connection charges;
- c) installation and distribution;
- d) consumption;
- e) maintenance;
- f) standby arrangements; and
- g) removal after completion.

4.3. Where the Department permits use of an existing supply, the applicable conditions, metering arrangements and rates of recovery shall be as specified in the tender document or determined under the agreement.

4.4. Delay or interruption in temporary services arranged by the Contractor shall not constitute a ground for additional payment or extension of time.

5. Site testing laboratory:

5.1. Where a site laboratory is specified under Clause 10A and Schedule F, it shall be established and made functional within the period specified in the agreement.

5.2. The laboratory shall be provided with the equipment, utilities, storage and record-keeping facilities specified in the tender document.

5.3. Tests that cannot reasonably be carried out at the site laboratory shall be conducted at an approved CPWD, Government, Government-recognised or NABL-accredited laboratory.

5.4. Allocation of testing charges, supply of samples, transportation and costs arising from failed tests shall be governed by the relevant quality-assurance and testing provisions of the agreement.

6. Maintenance and removal:

6.1. Temporary facilities shall be maintained in a safe, clean and serviceable condition throughout their required period of use.

- 6.2. On completion, the Contractor shall dismantle and remove temporary facilities and restore the affected areas unless otherwise directed by the Engineer-in-Charge.
- 6.3. Nothing extra shall be payable for such removal and restoration unless separate payment is specifically provided.

IV) PROJECT MANAGEMENT

1. Project Organisation:

- 1.1. Immediately after the award of work, the Contractor shall submit details of the key personnel proposed to be engaged at site in accordance with the relevant provisions of the General Conditions of Contract and other tender conditions.
- 1.2. The Contractor shall also submit a detailed project organisation chart showing:
 - a) Names and designations of key personnel.
 - b) Reporting relationships.
 - c) Responsibilities and authority of each position.
 - d) Contact details.
 - e) Personnel responsible for planning, execution, quality control, safety, billing, coordination, testing, and commissioning.

2. Integrated programme:

- 2.1. The Contractor shall prepare and submit an integrated programme for the entire work within the period specified in Schedule F.
- 2.2. The programme shall be prepared using the project-management software specified in Schedule F.
- 2.3. The programme shall cover all major, minor and specialised components from commencement to completion and handing over.
- 2.4. The programme shall include:
 - a) Work Breakdown Structure covering the entire scope;
 - b) construction and installation methodology and sequence;
 - c) activity durations and logical relationships;
 - d) commencement, completion and contractual milestones;
 - e) critical path and critical activities;
 - f) total float and major constraints;
 - g) activity-wise manpower and resource deployment;
 - h) procurement, manufacture and delivery of materials and equipment;
 - i) preparation, submission and approval of drawings, samples, calculations and technical data;

- j) mobilisation and deployment of machinery, equipment, temporary works and formwork, wherever applicable;
- k) coordination and interface activities between components and agencies;
- l) inspection, testing and commissioning;
- m) statutory inspections and approvals;
- n) rectification, documentation, training and handing over; and
- o) any other activity necessary for completing the work within the stipulated period.

3. Baseline programme:

- 3.1. After approval, the programme shall constitute the baseline programme for monitoring progress.
- 3.2. The approved baseline shall be retained without alteration for comparison with actual progress.
- 3.3. The approved programme shall be submitted in:
 - a) editable native software format; and
 - b) PDF format.

4. Effect of programme approval:

- 4.1. Approval of the programme, revised programme, resource deployment or recovery measures shall not:
 - a) relieve the Contractor of any contractual responsibility;
 - b) constitute acceptance of any delay;
 - c) revise the stipulated date of completion;
 - d) constitute approval of extension of time;
 - e) entitle the Contractor to additional payment; or
 - f) restrict the rights of the Engineer-in-Charge under the agreement.

5. Updating of programme:

- 5.1. The Contractor shall update the programme at the frequency specified in Schedule F and with every prescribed progress report.
- 5.2. The updated programme shall indicate:
 - a) status date;
 - b) actual start and actual finish of completed activities;
 - c) actual progress and remaining duration of ongoing activities;
 - d) forecast start and finish dates of pending activities;
 - e) current critical path and critical activities;
 - f) total float;
 - g) delayed activities and variance from baseline;
 - h) revised forecast completion date;

- i) approved changes and rescheduled milestones; and
- j) corrective or recovery measures.

6. Revised and recovery programme:

- 6.1. Where progress falls behind the approved programme or completion within the stipulated period is likely to be affected, the Contractor shall submit a revised or recovery programme when directed by the Engineer-in-Charge.
- 6.2. The programme shall indicate:
 - a) progress achieved;
 - b) activities affected;
 - c) reasons for deviation;
 - d) revised sequence and timing;
 - e) additional manpower, materials, machinery, shifts or other resources;
 - f) proposed corrective measures; and
 - g) effect on contractual milestones and completion.
- 6.3. Failure to submit the programme or revised programme within the prescribed period shall attract recovery at the rate specified in Schedule F.

7. Monthly progress report:

7.1. General:

The Contractor shall submit a monthly progress report within the period specified in Schedule F.

The report shall be submitted in editable electronic format and PDF format.

The monthly report shall include:

- a) executive summary;
- b) updated programme and Gantt chart;
- c) planned and achieved physical progress;
- d) progress against milestones;
- e) two-fortnight or four-week look-ahead programme;
- f) manpower and machinery deployment;
- g) status of materials and equipment;
- h) status of drawings, samples, approvals and inspections;
- i) delayed activities and constraints;
- j) corrective and recovery measures;
- k) quality-control and testing status;
- l) safety and environmental status;
- m) financial progress;

- n) status of deviations, substituted items and extra items;
- o) statutory approvals and handing-over activities; and
- p) dated progress photographs and videos.

7.2. Updated Gantt Chart:

The Contractor shall submit, along with each monthly progress report, an updated Gantt chart prepared in the approved project management software.

The updated Gantt chart shall:

- a) Retain the approved baseline programme for comparison.
- b) Indicate the status date.
- c) Show actual start and actual finish dates of completed activities.
- d) Show percentage progress and remaining duration of ongoing activities.
- e) Show revised forecast start and finish dates of pending activities.
- f) Indicate the critical path, critical activities, total float, milestones, and activity dependencies.
- g) Clearly identify delayed activities and variance from the approved baseline programme.
- h) Reflect approved changes, revisions, extensions of time, and rescheduled milestones, wherever applicable.
- i) Indicate the current forecast date of completion of the work.

7.3. Physical progress format:

S.N.	WBS/ Activity/ Component /Location	Unit	Reporting -period planned	Reporti ng- period achiev ed	Cumula tive planne d	Cumula tive achiev ed	Varian ce	Target for next period/ Remark s

7.4. Financial progress format:

S.N.	Particular	During reporting period	Cumulative up to previous report	Cumulative up to reporting date	Remarks
1	Gross value of work executed				
2	Value of work billed				
3	Payments received				

S.N.	Particular	During reporting period	Cumulative up to previous report	Cumulative up to reporting date	Remarks
4	Advances received/adjusted				
5	Recoveries and amounts withheld				
6	Pending bills				
7	Extra, substituted and deviation items				
8	Forecast value for succeeding period				

7.5. Look-ahead programme:

The Contractor shall submit a look-ahead programme for the succeeding two fortnights or such other period as directed by the Engineer-in-Charge.

The look-ahead programme shall be consistent with the current approved programme and shall be submitted in the following tabular formats:

a) Activity-wise Look-Ahead Programme

S.N.	WBS / Activity / Location	Unit	Current status / quantity completed	Target for next month	Planned start	Planned finish	Milestone / Remarks

b) Resource, Approval and Constraint Plan

Activity Ref.	Manpower required (trade and number)	Materials and delivery dates	Plant / machinery / shuttering required	Drawings / approvals / inspections required	Constraints / interfaces and corrective action

7.6. Progress photographs and video:

The progress report shall be accompanied by dated and location-referenced photographs covering the principal areas and activities.

Video records shall be submitted where specified in Schedule F or directed by the Engineer-in-Charge.

Photographs and videos shall be captioned and indexed in the following format:

S.N.	File/ Photo/Video No.	Date and time	Location/ Activity	Description of progress shown	Remarks

7.7. Manpower Statement:

The manpower statement shall be submitted separately for key personnel and labour deployment in the following formats.

a) Key Personnel Deployment

S.N.	Name	Designation	Qualification / Experience	Responsibility	Location of deployment	Date deployed / Contact

b) Labour Deployment Statement

S.N.	Trade / Category	Planned manpower	Actual manpower	Block / Location	Shift	Shortfall / Surplus	Additional mobilisation proposed and date

8. Review meetings:

- 8.1. Review meetings shall be held fortnightly, monthly or at such frequency as directed by the Engineer-in-Charge.
- 8.2. The Contractor's Project-in-Charge and relevant representatives shall attend the meetings.
- 8.3. A senior management representative authorised to commit resources shall attend monthly review meetings when required.
- 8.4. The agenda shall include:
 - a) programme versus actual progress;
 - b) milestone and critical-path status;
 - c) targets for the succeeding period;
 - d) materials, manpower and machinery;
 - e) drawings, approvals and statutory clearances;
 - f) delayed activities and constraints;
 - g) recovery measures;

- h) quality and safety matters;
- i) coordination and interface issues;
- j) contractual matters requiring decision;
- k) physical and financial progress; and
- l) testing, commissioning and handing-over status.

9. Minutes and action-taken report

- 9.1. Minutes of all review meetings shall be prepared and circulated by the agency designated by the Engineer-in-Charge.
- 9.2. The Contractor shall comply with the decisions and action points recorded in the minutes within the prescribed time.
- 9.3. The Contractor shall submit an action-taken report at the succeeding meeting in the following format:

S.N.	Meeting date /Minutes reference	Issue or decision	Responsibility	Due date	Action taken/Compliance reference	Status	Remarks

- 9.4. Meeting minutes shall record coordination and implementation decisions but shall not by themselves constitute:
 - a) an order for deviation or extra work;
 - b) approval of additional payment;
 - c) extension of time; or
 - d) alteration of any contractual provision,

unless separately approved by the competent authority under the applicable provisions of the agreement.

10. Non-submission:

- 10.1. Failure or delay in submission of the prescribed programme, updated programme, progress report or related records shall attract recovery at the rate specified in Schedule F, without prejudice to other action permissible under the agreement.

V) INSPECTION OF WORK

1. Right of inspection:

- 1.1. In addition to inspections provided under the GCC and applicable CPWD Specifications, the work, materials, equipment, records, workshops, factories and fabrication facilities shall be open to inspection by:
 - a) officers and representatives of CPWD;

- b) Chief Technical Examiner's Organisation of the Central Vigilance Commission;
- c) Vigilance Unit of CPWD;
- d) Third-Party Quality Assurance agency;
- e) Project Management Consultant, where engaged;
- f) User Department;
- g) committees, consultants or agencies appointed by CPWD; and
- h) statutory or other authorities authorised by the Engineer-in-Charge.

2. Contractor's representative:

- 2.1. During normal working hours, and at other times for which reasonable notice has been given, the Contractor or an authorised responsible representative shall remain available to:
- a) receive instructions;
 - b) provide access;
 - c) produce drawings, records and certificates;
 - d) arrange samples and tests;
 - e) provide measurements and supporting documents; and
 - f) assist the inspecting authority.

3. Inspection at factory or workshop:

- 3.1. Where inspection at a manufacturer's works, factory, workshop or fabrication facility is specified, the Contractor shall arrange the inspection and provide the necessary access, records and testing facilities.
- 3.2. The allocation of travel, boarding, lodging and inspection charges shall be as specified in the relevant technical specification or Schedule of Quantities.
- 3.3. Inspection or witnessing of tests shall not constitute final acceptance of the material or equipment.

4. Concealed work:

- 4.1. No material, installation or work that will subsequently be covered, concealed or rendered inaccessible shall be covered until the required inspection, testing, measurement and recording have been completed.
- 4.2. Before covering concealed work, the Contractor shall, as applicable:
- a) offer the work for inspection;
 - b) complete prescribed tests;
 - c) record joint measurements;
 - d) record location, level and identification details; and
 - e) take dated and location-referenced photographs.

- 4.3. Where work is covered without the prescribed inspection or records due to the Contractor's omission, the Engineer-in-Charge may require opening up, testing and reinstatement at the Contractor's cost.

5. Rectification and compliance:

- 5.1. Observations made during inspection shall be communicated through the Engineer-in-Charge or authorised CPWD officer.
- 5.2. Deficiencies attributable to non-compliance with the agreement shall be rectified by the Contractor within the stipulated period without additional payment.
- 5.3. The Contractor shall submit a compliance report with supporting records, photographs and test results, where applicable.

6. Certification by consultants or other agencies:

- 6.1. Any inspection, approval or certification by a consultant, TPQA agency, committee or other appointed agency shall not relieve the Contractor of:
- a) contractual responsibility;
 - b) performance obligations;
 - c) defect-liability obligations;
 - d) guarantees and warranties; or
 - e) liability for defective materials or workmanship.

7. Records to be maintained at site:

- 7.1. The Contractor shall maintain at site, as applicable:
- a) current agreement documents;
 - b) approved drawings and shop drawings;
 - c) approved programme and current updated programme;
 - d) milestone and progress status;
 - e) material-approval and inspection records;
 - f) test registers and test certificates;
 - g) site-order and compliance records;
 - h) quality-assurance records;
 - i) safety and environmental records;
 - j) quantities executed and balance quantities;
 - k) status of deviations, substituted items and extra items;
 - l) statutory approvals; and
 - m) other records prescribed under the agreement.

8. Display and visitor facilities:

- 8.1. Where specified, the Contractor shall provide and maintain a work-information display board showing the essential particulars and current

progress of the work.

- 8.2. Where specified, adequate helmets, safety shoes, reflective jackets and other necessary PPE shall be maintained for authorised visitors.

9. Assistance for technical and vigilance examination:

- 9.1. The Contractor shall provide the documents, measurements, records, samples, manpower, tools, equipment, access and assistance required for inspection by CTE, CPWD Vigilance or any other authorised authority without additional payment, except where separate payment is expressly provided.

VI) QUALITY ASSURANCE AND MATERIAL CONTROL

1. Quality Assurance Plan and method statements:

- 1.1. The Contractor shall prepare and submit a project-specific Quality Assurance Plan in accordance with the applicable CPWD Specifications, CPWD Quality Assurance Manual(s), relevant Indian Standards and other requirements forming part of or referred to in the agreement. The Quality Assurance Plan shall be submitted within the period specified by the Engineer-in-Charge and approved before commencement of the relevant work.
- 1.2. The Contractor shall also submit, sufficiently in advance of the corresponding activity, activity-wise Inspection and Test Plans, method statements and checklists consistent with the approved Quality Assurance Plan and the applicable CPWD quality-control procedures.
- 1.3. The Quality Assurance Plan and related submissions shall, as applicable, specify:
- a) Organisation structure, responsibilities and authority of quality-control personnel.
 - b) Applicable specifications, codes, standards, approved drawings and acceptance criteria.
 - c) Material-source approval, sampling, inspection and testing procedures.
 - d) Stage-wise inspections, hold points, witness points and approval requirements.
 - e) Mandatory tests, test frequencies, sample sizes and testing locations.
 - f) Requirements for calibration and control of measuring and testing instruments.
 - g) Procedures for identification, storage, handling and traceability of materials and equipment.
 - h) Control of workmanship, mock-ups, samples and benchmark installations.
 - i) Procedures for recording, reporting, rectification and closure of non-conformities.

- j) Formats and registers for inspections, tests, approvals, calibration, non-conformities and other quality records.
- 1.4. The Quality Assurance Plan shall be updated whenever required due to changes in the scope, specifications, construction methodology or directions of the Engineer-in-Charge.
- 1.5. Review or approval of the Quality Assurance Plan, Inspection and Test Plans, method statements or checklists shall not relieve the Contractor of responsibility for complying with the agreement or for the quality, safety, performance and durability of the work.

2. Material and equipment approval:

- 2.1. The contractor shall, on demand by the engineer-in-charge, furnish proof to the satisfaction of the engineer-in-charge regarding purchase of materials and equipment from the manufacturer/ manufacturer's authorised outlets.
- 2.2. Materials to be used in work are to be ISI marked where available. Prior approval of the engineer-in-charge shall be taken for all the materials required to be used on works.
- 2.3. The contractor shall procure only such quantities as are reasonably required for execution of the work. No claim shall be entertained for excess procurement, wastage or unused materials. All surplus materials shall remain the property of the contractor and shall be removed from site after completion of the work. The decision of the Engineer-in-charge in this regard shall be final & binding on the contractor.
- 2.4. Materials and equipment requiring approval shall not be procured in bulk or incorporated in the work until the applicable source, make, technical particulars, certificates and samples have been approved, unless otherwise permitted in writing by the Engineer-in-Charge. Approval of a make, manufacturer, source or sample shall not constitute acceptance of every subsequent supply.
- 2.5. A material or equipment item found defective or non-conforming after approval shall be removed, replaced or rectified at the Contractor's cost.

3. Samples, mock-ups and benchmark installations

- 3.1. Samples required for approval or testing shall be supplied without additional payment. Sampling, packing, identification, transportation and delivery to the approved laboratory shall be included in the quoted rates unless expressly provided otherwise.
- 3.2. Mock-ups, sample panels, sample rooms and sample installations expressly specified in the tender documents, or reasonably required by the Engineer-in-Charge during execution where necessary to establish compliance with the specified material, workmanship, finish, colour, pattern, layout, functional performance or installation methodology, shall be prepared, completed and approved before bulk execution of the corresponding work. The approved samples shall form the benchmark for subsequent execution.

- 3.3. Payment for such mock-ups or samples shall be regulated as specified in the Schedule of Quantities. Where no separate provision exists, their cost, including dismantling, removal, replacement or incorporation into the permanent work as directed by the Engineer-in-Charge, shall be deemed included in the rates of the relevant items.
- 3.4. Approval of a mock-up shall not authorise any deviation from the agreement unless such deviation is separately approved in writing under the applicable provisions of the agreement.

4. Mandatory Tests and Testing Costs:

- 4.1. The Contractor shall carry out all field, site-laboratory, independent laboratory, factory, routine, acceptance, type and performance tests required under the agreement, Schedule of Quantities, applicable CPWD Specifications and Quality Assurance Manuals, statutory requirements, approved Quality Assurance Plan and Inspection and Test Plans, and relevant Indian Standards, to the extent applicable to the material, equipment or work.
- 4.2. The Contractor shall ensure that the prescribed tests are conducted at the specified stages and frequencies and that the material, equipment or work is not covered up, dispatched, incorporated or proceeded with beyond an identified hold point until the required inspection or testing has been completed and the results have been accepted, wherever such acceptance is required.
- 4.3. Where the agreement, applicable specification or approved Inspection and Test Plan requires testing by an independent or third-party laboratory, such testing shall be carried out at an approved testing laboratory.
- 4.4. The cost of sampling, packing, identification, transportation, testing, retesting where necessitated by failure, and submission of reports for all mandatory tests shall be borne by the Contractor unless expressly provided otherwise in the Schedule of Quantities or elsewhere in the agreement.
- 4.5. Testing and acceptance of any material, equipment or work shall not relieve the Contractor of responsibility for its conformity, quality, performance, durability or compliance with the agreement.

5. Failed, doubtful and additional tests:

- 5.1. The cost of retesting, additional testing, investigation, opening up, core cutting, load testing or other examination necessitated by failure, doubtful quality or non-conformity attributable to the Contractor shall be borne by the Contractor.
- 5.2. Where additional testing is directed for reasons not arising from any failure, deficiency, doubtful quality, omission or non-conformity attributable to the Contractor, and the results establish conformity, its financial treatment shall be regulated under the applicable provisions of the agreement. Where the results disclose non-conformity, the cost of

such testing and all consequential action shall be borne by the Contractor.

6. Testing laboratories, sampling and instruments

- 6.1. All third-party tests mandated under the agreement, and tests that cannot reasonably be conducted in the site laboratory, shall, with the prior approval of the Engineer-in-Charge, be carried out at an institution or laboratory having adequate facilities and demonstrated competence for the relevant material, test and test method.
- 6.2. Subject to availability of the required testing facilities and prior approval of the Engineer-in-Charge, such tests may be carried out at:
 - a) Indian Institutes of Technology
 - b) National Institutes of Technology
 - c) Government engineering colleges
 - d) Government polytechnic colleges
 - e) Government laboratories
 - f) NABL-accredited laboratories having valid accreditation covering the relevant test, material and test method subject to approval by the competent authority.
- 6.3. Samples for testing shall be selected, identified, sealed and documented in the presence of the Engineer-in-Charge or his authorised representative. The Contractor shall arrange the packing, transportation and delivery of the samples to the approved laboratory without substitution, damage or tampering.
- 6.4. Measuring, inspection and testing instruments shall be suitable for the intended purpose and shall have the required range, accuracy, resolution and least count. Instruments requiring calibration shall possess valid calibration certificates traceable to national or international standards, and shall be recalibrated at the prescribed intervals and whenever their accuracy is doubtful.
- 6.5. Test reports shall clearly identify the work, material, manufacturer or source, batch or lot, sample identification, date of sampling, applicable test standard, test method and results. Reports shall be submitted directly by the laboratory or through a verifiable digital or physical record acceptable to the Engineer-in-Charge.
- 6.6. Approval of the testing institution or laboratory shall not relieve the Contractor of responsibility for the authenticity of the sample, correctness of the testing arrangements or conformity of the material, equipment or work with the agreement.

7. Proprietary products and traceability:

- 7.1. Proprietary materials and equipment shall be supported by invoices, batch or serial particulars, test certificates, technical data, safety data sheets (wherever applicable) and documents issued by the

manufacturer or authorised supplier.

- 7.2. Documents shall be sufficient to establish authenticity, source, date of manufacture, shelf life, applicable warranty and conformity with specifications.
- 7.3. Materials or equipment requiring batch-wise or serial-number traceability shall be identified so that source, certificate, location of use and inspection status can be established.

8. Non-conforming work and materials; maintenance of records:

- 8.1. Any material, equipment or work found not conforming to the agreement, approved drawings, specifications, approved samples or directions of the Engineer-in-Charge shall be clearly identified and, wherever practicable, segregated and protected against unintended use or incorporation in the work. The same shall be rectified, replaced, removed or rejected as directed by the Engineer-in-Charge, at the Contractor's cost.
- 8.2. The Contractor shall maintain complete records of inspections, tests, approvals, non-conformities, corrective actions, rectifications, replacements, removals and final compliance throughout execution.
- 8.3. Quality records shall be maintained in an indexed and retrievable form and shall be submitted as part of the completion and handing-over documentation.
- 8.4. Rejected or substandard materials shall not be used in the work and shall be removed from the site within the period directed by the Engineer-in-Charge. The following procedure shall be followed:
 - a) Whenever any material brought to the site by the Contractor is rejected, an entry shall be made in the Site Order Book by the Assistant Engineer/Assistant Executive Engineer, indicating the description and approximate quantity of the rejected material.
 - b) Pending removal, the rejected material shall be suitably marked and kept separately at a location approved by the Engineer-in-Charge so as to prevent its inadvertent use.
 - c) Upon removal of the material from the site, the Assistant Engineer/Assistant Executive Engineer shall record a certificate against the original entry, indicating the date, approximate quantity and mode of removal. Where removal is by vehicle, the vehicle registration number shall also be recorded.
 - d) Where the Assistant Engineer/Assistant Executive Engineer is unable to remain present at the time of removal, the Junior Engineer may verify and record the removal particulars, which shall subsequently be countersigned by the Assistant Engineer/Assistant Executive Engineer.
- 8.5. No rejected or substandard material shall be removed from its designated storage location, taken out of the site, returned to the site, reused, transferred or disposed of without the knowledge of the

Engineer-in-Charge or the authorised departmental representative.

- 8.6. Rejected materials shall not be re-presented for approval unless they have been rectified or reprocessed through an approved procedure and are clearly identified as such.
- 8.7. No non-conforming work shall be covered up, concealed or incorporated into subsequent work pending a decision on its disposition.
- 8.8. Rectification, replacement or removal of non-conforming work or materials, and all associated testing, dismantling, re-execution, transportation and disposal necessitated by a non-conformity attributable to the Contractor, shall be carried out at the Contractor's cost and shall not entitle the Contractor to additional payment or extension of time.
- 8.9. No payment shall be admissible for rejected materials, equipment or work merely because the same has been delivered to the site, installed, measured, inspected or previously approved.

VII) COMMON SITE, COORDINATION, SAFETY AND ENVIRONMENTAL REQUIREMENTS

1. Coordination of openings and embedded provisions:

- 1.1. Contractors and specialised agencies shall provide timely interface information for openings, sleeves, inserts, supports, foundations, trenches and embedded provisions required for their respective components.
- 1.2. Such information shall be incorporated in the coordinated drawings before execution of the affected civil or structural work.
- 1.3. Costs arising from delayed or incorrect interface information attributable to a Contractor or its specialised agency shall be borne by that Contractor.

2. Coordinated drawings:

- 2.1. The Contractor shall prepare and submit, where applicable:
 - a) coordinated services drawings;
 - b) builder's-work drawings;
 - c) shop and fabrication drawings;
 - d) setting-out drawings;
 - e) equipment-layout and foundation drawings;
 - f) statutory-submission drawings; and
 - g) as-built drawings.
- 2.2. Coordinated drawings shall identify the interfaces between civil, electrical, mechanical, plumbing, fire-fighting, HVAC, lift and other components before execution of the affected work.
- 2.3. Approval of coordinated, shop or as-built drawings shall not relieve the

Contractor of responsibility for correctness, coordination or compliance with the agreement.

- 2.4. As-built drawings shall be progressively updated during execution and shall not be prepared solely from the tender drawings after completion.

3. Existing services and property:

- 3.1. Existing drains, pipes, cables, overhead lines, structures, finishes and other services or property encountered during the work shall be protected against damage. Damage caused by the Contractor shall be made good promptly at their cost.
- 3.2. Where an existing service is required to be diverted or altered by an approved design decision not arising from the Contractor's default, the work shall be measured and paid under the applicable provisions of the agreement unless included in the Schedule of Quantities.
- 3.3. Discovery of antiquities and objects of interest:

Any fossil, coin, article of antiquity, archaeological remain or object of geological or historical interest discovered during excavation or construction shall be protected against removal or damage. The Contractor shall immediately inform the Engineer-in-Charge and shall proceed only in accordance with the directions of the competent authority.

4. Access, security and permits:

- 4.1. The Contractor shall comply with the site-specific access, identity-card, security-clearance, working-hour, permit-to-work and restricted-area requirements stated in the Site Requirements Schedule. Costs of compliance shall be included in the quoted rates unless expressly provided otherwise.

5. Safety:

- 5.1. The Contractor shall comply with the GCC, applicable CPWD safety provisions, statutory requirements and approved safety plan. Work-specific method statements and permits shall be provided for high-risk activities such as excavation, work at height, lifting, hot work, confined spaces, energised installations and shutdown work.
- 5.2. Temporary works, scaffolding, working platforms, barricading, access and protective arrangements shall be designed, provided, inspected and maintained by competent personnel.

6. Environmental management and waste:

- 6.1. The Contractor shall comply with applicable environmental statutes, lawful directions of competent authorities and the project-specific Environmental Management Plan, where specified.
- 6.2. Dust, noise, wastewater, debris, packaging, surplus material and hazardous waste shall be controlled, stored, transported and disposed of through lawful means.
- 6.3. Trees and vegetation:

Existing trees and vegetation shall not be removed, cut or damaged except where removal is shown in the approved scope and the required permission has been obtained. Compensatory plantation and maintenance shall be carried out where specified in the Site Requirements Schedule, Schedule of Quantities or approved drawings.

6.4. Penalties or additional charges arising from the Contractor's default or unlawful disposal shall be borne by the Contractor.

7. Protection, watch and ward and making good:

7.1. The Contractor shall protect materials, equipment, completed work and areas handed over for execution and shall remain responsible for watch and ward until completion or formal taking over, as applicable.

7.2. Damage to adjoining property, existing installations or completed work caused by the Contractor shall be made good at its cost.

VIII) COMPLETION, DOCUMENTATION AND HANDING OVER

1. Prerequisites for handing over:

1.1. Before offering the work or a component for completion, the Contractor shall complete the work, tests, commissioning, rectification, cleaning, restoration and documentation required under the agreement.

2. Common completion documents:

2.1. The Contractor shall submit, as applicable: as-built drawings; test and commissioning records; statutory approvals; warranties and guarantees; guarantee bonds; material and equipment certificates; software, licences, passwords and configuration backups; inventories; keys; photographs; and other records specified in the agreement.

3. Operation and maintenance information and training:

3.1. For installations requiring operation or maintenance, the Contractor shall submit approved operation and maintenance manuals, preventive-maintenance schedules, spare-parts lists, vendor and service-contact details and shall provide the specified training before handing over.

4. Site clearance and restoration:

4.1. Temporary facilities, surplus materials, debris and Contractor's property shall be removed and affected areas restored, except where the Engineer-in-Charge directs retention.

5. Completion and payment:

5.1. Submission of the specified completion documents, guarantees, statutory approvals and training records may be treated as a prerequisite for completion certification and release of final bill.

5.2. Taking over, use, inspection or certification shall not relieve the Contractor of defect-liability, guarantee, warranty or other obligations under the agreement.

6. Completion/Occupancy Certificate:

- 6.1. Wherever completion certificates, occupancy certificates, fire approvals, electrical safety approvals, lift licences, pollution-control approvals, water and sewerage approvals or any other approval/clearance from a local body, fire authority or any statutory authority is required as per applicable rules, the same shall be deemed to be included in the scope of the Contractor. Work shall be treated as complete only upon receipt of all such approvals in final form.

IX) SPECIAL TERMS & CONDITIONS FOR SECURITY, SITE & SAFETY REQUIREMENTS FOR OFT TRICHY WORKS

1. Site Constraints & Security Restrictions

- i. The site has space constraints. Intending tenderers are advised to inspect the site before participating in the bid. No claim on this account shall be entertained at any stage.
- ii. The Security Agencies / user department(OFT) may impose restrictions on working methods and on movement of labour, materials, tools and equipment inside the campus. The contractor shall strictly comply with all such instructions, including security clearance, police verification, issue of identity cards, access control, restricted working hours, biometric attendance and other safety requirements.
- iii. **No extension of time shall be granted and no extra payment whatsoever shall be admissible** to the contractor on account of compliance with security, safety, access control, police verification, site constraints or instructions issued by Security / Safety / Estate authorities. Any delay arising due to such compliances shall be deemed to have been considered while quoting the tender and shall be made good by deployment of additional resources at the contractor's own cost.

2. Deployment of Labour & Police Verification

1. Police Verification is mandatory for the contractor, supervisors and all labourers deployed at site.
2. All supervisors, engineers and permanent staff of the contractor shall possess valid Police Verification Certificates (PVCs) and produce the same on demand.
3. Contract workers engaged for more than **seven (07) days** shall also possess valid PVCs throughout the execution period. In case of re- deployment, fresh PVCs shall be submitted.
4. Contract workers engaged for less than seven (07) days shall furnish personal details in the prescribed format, including photograph, address, identification marks and biometrics (where feasible).

3. Master List, Affidavit & Responsibility

1. The contractor shall submit a Master List of all personnel (labourers, supervisors and staff) to the Security Office in the prescribed proforma, furnishing complete antecedents.
2. The contractor shall submit a notarised affidavit on judicial stamp paper (₹10/- or as applicable under State law) taking full responsibility for all supervisors and labourers, with photographs affixed.
3. The affidavit shall be valid for three months or till receipt of satisfactory Police Verification Report (PVR), whichever is earlier.
4. In case of adverse PVR, permission of the concerned person to enter the premises shall be withdrawn immediately without notice.

4. Identity Cards, Tokens & Access Control

1. Identity cards / passes shall be issued by the Security Office based on affidavit / PVC and shall be returned after completion of work.
2. Contractors, supervisors and workers shall be subject to routine checks at entry gates as well as at the work site.
3. If needed Biometric attendance of all contractor's personnel shall be recorded daily.
4. No person shall be permitted to work inside the premises for more than one contract at a time.

5. Working Hours & Prohibited Items

1. Contractor labour shall be permitted to work between 08:30 hrs and 17:30 hrs only.
2. Work beyond normal working hours shall be carried out only with prior written approval of the competent authority of OFT.
3. Mobile phones, electronic gadgets, tobacco products and alcoholic substances are strictly prohibited inside the premises.

6. Safety Clearance & Work Permits

1. The contractor shall obtain necessary Security Clearance / Safety Work Permit before commencement of any work.
2. All applicable statutory safety regulations and local safety instructions shall be strictly followed.
3. The work area shall be clearly demarcated and adequately barricaded. Clearance from factory / estate authorities shall be obtained before commencement of work.
4. All temporary constructions shall be dismantled and the site restored after completion of work.

7. Work at Height & Medical Fitness

For work at height, the contractor shall obtain **medical fitness certificates** from a registered medical practitioner (MBBS/MD) for the concerned workers and produce the same before issue of work permit.

8. Liability, Compensation & Indemnity

1. The CPWD/OFT shall not be responsible for any injury, accident or damage to contractor's personnel or equipment during execution of work.
2. The contractor shall bear all medical expenses, compensation and statutory liabilities, including compensation payable to legal heirs in case of fatal accidents, arising out of judicial or statutory orders.
3. In case of work inside restricted factory areas, the contractor shall comply with all security and safety regulations and shall indemnify and keep the authorities harmless from any loss, damage, accident or compensation.

9. Statutory Compliance & Breach

The contractor shall be fully responsible for compliance with all applicable **labour laws, safety laws and statutory regulations**. **Strict compliance** of all the above conditions is mandatory. Any violation shall be treated as **breach of contract** and action shall be taken as per agreement terms and conditions.

PROFORMA OF SCHEDULES FOR CIVIL COMPONENT

(Separate Performa for Civil, Elect. & Hort. Works in case of Composite Tenders)

SCHEDULE 'A'

Schedule of quantities (as per **PART-C, SCHEDULE OF QUANTITIES FOR CIVIL PWD-3**): **WORKS**

SCHEDULE 'D'

Extra schedule for specific requirements/ document for the **PART-A, PART-C** work, if any:

SCHEDULE 'E'

Reference to General Conditions of contract. **GCC CONSTRUCTION WORKS 2023 as modified & corrected up to the previous day of last date of submission of bid.**

Name of Work: **Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.**

Estimated cost of work: **Major component (CIVIL) : Rs. 2,07,30,170/-
Total : Rs. 2,07,30,170/-**

(i) Earnest money deposit: **Rs. 4,14,603/-**

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

(b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.

(iii) Security Deposit: **2.5% of tendered value**

SCHEDULE 'F'

GENERAL RULES & DIRECTIONS:

Officer inviting tender: **Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015 or his successor thereof.**

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3: **See below**

Definitions:

2(v) Engineer-in-Charge: **Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015 or his successor thereof.**

2(viii) Accepting Authority: **Superintending Engineer (Trichy), CPWD, Trichy - 620 015 or his successor thereof.**

2(x) Percentage on cost of materials and Labour to cover all overheads and profits: **15%**

2(xi) Standard Schedule of Rates: **DSR-2023 as modified and corrected upto the previous day of last date of submission of tender multiplied by a correction factor of 0.973 enhanced by Cost Index.**

2(xii) Department: **CPWD**

9(ii) Standard CPWD Contract Form: **GCC CONSTRUCTION WORKS 2023, CPWD Form 7/8 as modified & corrected up to the previous day of last date of submission of bid.**

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 there of from the date of issue of letter of acceptance **7 days**
- (ii) Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above **3 days**

Clause 2

Authority for fixing compensation under clause 2: **Superintending Engineer (Trichy), CPWD, Trichy - 620 015 or his successor thereof.**

Clause 5

Number of days from the date of issue of letter of acceptance for **10 days or date of handing over of site** reckoning date of start Mile stone(s) **whichever is later** as per table given below:-

Sl. No.	Description of Milestone (Physical)	Time allowed in days (from date of start)	Amount to be with-held in case of non achievement of mile stone
1.	Site preparation, Bench marks, submission of GPR Survey (Ground Penetarting Radar survey) , Layout plan indicating invert levels of sewer line, Manholes top levels, MH depth, Gradient, position of Manholes as per the site condition and specifications including excavation of trenches up to 400 metre length.	2 Months	1% of tendered value
2.	Excavation of sewer line up to 1900 metre length and laying of NP3 pipe lines including jointing up to 950 metre length.	4 Months	1% of tendered value
3.	Excavation of sewer line up to 2850 metre length, laying of Np3 pipe lines including jointing up to 1900 metre length and construction of manholes up to 950 metre length.	6 Months	1% of tendered value
4.	Excavation of sewer line up to 3800 metre length, laying of pipe lines including jointing up to 2850 metre length and construction of manholes up to 2150 metre length.	8 Months	1% of tendered value
5.	Completion of balance sewer line	10 Months	1% of tendered

works, manholes, diversion of existing sewer line, testing of pipe lines, refilling, other miscellaneous works, submission of As - built drawings, service drawings, etc.		value
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Time allowed for execution of work: 10 (Ten) months

- (i) Authority to convey decision of shifting of milestone and extension of time: Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015 or his successor thereof.
- (ii) Authority to decide rescheduling of milestone and extension of time: Superintending Engineer (Trichy), CPWD, Trichy - 620 015 or his successor thereof.
- (iii) Authority to decide shifting of date of start in case of delay in handing over of site: Superintending Engineer (Trichy), CPWD, Trichy - 620 015 or his successor thereof.

Table 2: Schedule of handing over of site

Part	Portion of site	Description	Time Period for handing over reckoned from date of issue of letter of intent.
Part A	Portion without any hindrance	Entire Site	10 Days
Part B	Portions with encumbrances	NIL	Not Applicable
Part C	Portions dependent on work of other agencies	NIL	Not Applicable

Clause 5.1(iv)

- (i) Time and progress chart and progress report – mutually agreed software: Primavera/ Microsoft Projects
- (ii) Rate of recovery for delay in submission of Time and Progress Chart: Rs. 14,000/- per week or part thereof
- (iii) Rate of recovery for delay in submission of monthly progress thereof Rs. 5,000/- per week or part thereof

report beyond 5th day of each month:

Clause 5.2

Nature of Hindrance Register: Electronic – online system through ERP (as per DG/MAN/394, Dt. 28.01.2020 & DG office OM issued vide No. 13/2/2023/WII/DG/177, Dated: 09.11.2023 and any other subsequent amendment issued from time to time during the progress of the work)

Clause 5.4

- (i) The form of application by the contractor for seeking rescheduling of milestones or seeking extension of time: Electronic – online system through ERP (as per DG/MAN/394, Dt. 28.01.2020 & DG office OM issued vide No. 13/2/2023/WII/DG/177, Dated: 09.11.2023 and any other subsequent amendment issued from time to time during the progress of the work)
- (ii) Rate of recovery for delay in submission of revised programme when the progress of work falls behind approved program by more than 10% of the stipulated period of completion of contract: Rs. 2,000/- per day

Clause 6

Computerised Measure Book (CMB) / Electronic Measurement Book (EMB)

Mode of measurement: Electronic Measurement Book (EMB)

Clause 7

Gross work to be done together with net payment /adjustment of advances for material collected, if any, since the last Rs. 20,00,000/- such payment for being eligible to interim payment:

Clause 7A

Whether clause 7A shall be applicable: Yes

Clause 8

Competent Authorities to inspect and issue part/ final completion certificate: **Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015 or his successor thereof.**

Clause 8A

Compensation for non submission of completion plans: **Rs. 2,00,000/-**

Authority to decide compensation for non submission of completion plans: **Superintending Engineer (Trichy), CPWD, Trichy - 620 015 or his successor thereof.**

Clause 10A

List of testing equipment to be provided by the contractor at site lab: **As per LIST OF EQUIPMENT FOR FIELD TESTING LABORATORY (CIVIL)**

Clause 10B (ii & iii)

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

Clause 10C

Whether Clause 10C shall be applicable: **Applicable**

Component of labour expressed as percent of value of work: **25 %**

Clause 10CC

Whether Clause 10CC shall be applicable: **Not applicable**

Clause 11

Building information model (BIM) is applicable and BIM professional to be deployed by contractor **No**

Specifications to be followed for the execution of work:

Specifications specified in contract documents **Detailed Specifications, Particular Specifications, Technical Specifications etc. included in this Bid**

for both civil & document under PART-C.
electrical works:

CPWD specifications for CPWD Specifications 2019 Vol.1 and Vol.2
Civil works:

Other specifications: All relevant BIS codes of practice, National Building Construction Standards 2026 (NBCS 2026), Energy Conservation sustainable Building Code (ECSBC), National Electrical Code (NEC), Structural & Non-structural elements for Fire safety, Harmonized Guidelines and Standards for Universal Accessibility in India, The Indian Electricity Act, Central Electricity Authority rules, Local Bodies Norms, Statutory bodies Norms and other relevant Codes, Guidelines, Regulations, Recommendations, Norms, Specifications etc.

Note: Latest version and all volumes of all above Codes, Guidelines, Regulations, Recommendations, Norms, specifications etc. shall be applicable along with all amendments issued upto the previous day of the last date of submission / uploading of Bid.

Clause 12

12.2. & 12.3 Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for items of work 100%

Clause 16

Competent Authority for deciding reduced rates: Superintending Engineer (Trichy), CPWD, Trichy - 620 015 or his successor thereof.

Clause 18

List of mandatory machinery, tools & plants to be deployed by the contractor at site:- As per LIST OF MANDATORY MACHINERY, TOOLS & PLANTS TO BE DEPLOYED BY THE CONTRACTOR AT SITE (CIVIL)

Clause 19C/ 19D/ 19G/ 19K

Authority to decide penalty for each default: Executive Engineer (Trichy) - I, CPWD, Trichy - 620 015 or his successor thereof.

Clause 19J

Authority to decide levy for delay: **Superintending Engineer (Trichy), CPWD, Trichy - 620 015 or his successor thereof.**

Clause 25

Conciliator: **SDG - Chennai, CPWD, Chennai or his successor thereof.**

Arbitrator Appointing Authority: **Superintending Engineer (Trichy) or his successor thereof.**

Place of Arbitration **Trichy**

Clause 32

Requirement of Technical Representative(s) and recovery rate

Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical Representative)	Minimum Experience (Years)	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 32 (i)
1	Graduate Engineer or Diploma Engineer	Civil	Project Manager cum planning/ quality/ site/ billing Engineer	2 or 5 respectively	1	₹15,000/- per month per person

Assistant Engineers retired from government service who are holding Diploma will be treated at par with graduate engineers.

Diploma holder with minimum 10 year relevant experience with a reputed construction company 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.

~~Minimum recovery for not deploying Building Information Model (BIM) professional shall be Rs. two lac per month or as mentioned above, whichever is higher.~~

Clause 38

(I)(a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates printed by C.P.W.D. **On the basis of Delhi Schedule of Rates 2023 printed by C.P.W.D.**

(ii) Variations permissible on theoretical Quantities:

- (a) Cement
For works with estimated cost put to tender not more than Rs. 25 lakh. 3% plus/minus.
For works with estimated cost put to tender more than Rs.25 lakh. 2% plus/minus.
- (b) Bitumen All Works 2.5% plus only & nil on minus side.
- (c) Steel Reinforcement and structural steel sections for each diameter, section and category 2% plus/minus
- (d) All other materials. Nil

Executive Engineer (Trichy) - I
CPWD, Trichy - 620 015

LIST OF EQUIPMENT FOR FIELD TESTING LABORATORY (CIVIL)

1. The contractor shall establish and maintain, at his own cost, a suitable site testing laboratory for carrying out routine field and laboratory tests required under the applicable CPWD Specifications, relevant BIS standards and the approved Quality Assurance Plan.
2. The site laboratory shall be weatherproof, adequately ventilated and provided with electricity, water supply, working tables, storage racks, sample-storage arrangements, curing arrangements and such other facilities as are necessary for proper testing and record keeping.
3. The equipment listed below represents the minimum requirement for an ordinary building work. Only equipment relevant to the materials and items included in the scope of work shall be deployed. Specialised equipment may be owned, hired or arranged through an approved testing agency, provided it is made available when required without affecting the work programme.
4. Tests that cannot reasonably be performed in the site laboratory shall be carried out at a CPWD, Government, Government-recognised or NABL-accredited laboratory approved by the Engineer-in-Charge.
5. All measuring and testing equipment shall be of suitable capacity, range, accuracy and least count. Equipment requiring calibration shall have valid calibration certificates traceable to national standards through a NABL-accredited calibration laboratory.
6. The list is indicative and not exhaustive. Additional equipment required for compliance with the specifications or approved Quality Assurance Plan shall be arranged by the contractor without extra payment. The decision of the Engineer-in-Charge regarding applicability, adequacy and duration of deployment shall be final and binding.

Table 3: Minimum Field Testing Equipment for Civil Works

S.N.	EQUIPMENT	NUMBER TO BE DEPLOYED
1	Slump cone test set comprising slump cone, base plate, tamping rod, scoop and graduated scale	2 Sets
2	Cube moulds, 150 mm × 150 mm × 150 mm, conforming to applicable BIS requirements	12 Nos.
3	Standard vibration table suitable for compacting concrete cube specimens	1 No.
4	Curing tank of adequate capacity, complete with water-temperature monitoring arrangement and specimen-identification racks	1 No.
5	Platform weighing scale, minimum 100 kg capacity, suitable for aggregate samples	1 No.

6	Digital weighing balance, minimum 10 kg capacity and 1 g or better least count	1 No.
7	Set of coarse-aggregate test sieves of suitable diameter comprising the sizes applicable to the aggregates used, generally 40 mm, 20 mm, 12.5 mm, 10 mm and 4.75 mm, complete with lid and pan	1 Set
8	Set of fine-aggregate wire-cloth test sieves comprising 4.75 mm, 2.36 mm, 1.18 mm, 600 micron, 300 micron, 150 micron and 75 micron sieves, complete with lid and pan	1 Set
9	Mechanical sieve shaker suitable for the sieve sets provided, complete with timer	1 No.
10	Electrically operated thermostatically controlled drying oven capable of maintaining a temperature of 105°C to 110°C	1 No.
11	GI/stainless-steel sample trays of assorted sizes	1 Set
12	Graduated measuring cylinders and measuring jars of assorted capacities from 100 ml to 2 litres	1 Set
13	Laboratory beakers and containers of assorted capacities	1 Set
14	Tamping rods, gauging trowels, spatulas, scoops, sieve brushes and other sample-preparation accessories	1 Set
15	Thermometer suitable for measurement of water, concrete and ambient temperature	1 No.
16	Moisture-content containers with lids	12 Nos.
17	Sand-replacement apparatus and/or soil core-cutter apparatus with rammer and accessories for field-density testing, as applicable to the filling material	1 Set
18	Digital vernier caliper	1 No.
19	Measuring tapes comprising 5 m and 30 m lengths	1 Each
20	Spirit level, plumb bob and straightedge suitable for routine workmanship and dimensional checks	1 Set
21	Mortar cube moulds of the size prescribed in the applicable specification	6 Nos., where mortar/grout strength testing is specified
22	Hydrostatic test pump with calibrated pressure gauges and accessories	1 Set, where water-supply

		or pressure-pipe work is included
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The following equipment need not remain continuously deployed at site. It shall be mobilised by the contractor, or testing shall be arranged through an approved agency, whenever directed by the Engineer-in-Charge or required under the specifications:

Table 4: Specialised Equipment to Be Mobilised as Required for Civil Works

S.N.	EQUIPMENT	NUMBER TO BE DEPLOYED
1	Compression Testing Machine conforming to IS 14858 and of capacity suitable for the concrete grade and specimen size	As required, or testing through an approved laboratory
2	Rebound hammer with valid calibration certificate	As directed
3	Ultrasonic Pulse Velocity test equipment	As directed
4	Reinforcement cover meter	As directed
5	Concrete core-cutting machine with suitable diamond core bits	As directed
6	Pull-off tester, pull-out tester or anchor-testing equipment	Where such tests are specified
7	Digital wood-moisture meter	Where substantial timber work is included
8	Water-quality testing facilities for chemical analysis in accordance with applicable BIS requirements	Through an approved laboratory
9	Soil-testing facilities for Proctor compaction, grain-size analysis, Atterberg limits, CBR and other specified tests	Through an approved laboratory
10	Testing facilities for cement, reinforcement steel, bricks, blocks, tiles, stone, waterproofing materials and other construction materials	Through an approved laboratory

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

1. The contractor shall deploy machinery, tools and plants of adequate capacity and in sufficient numbers to execute the work safely and in accordance with the approved construction programme, method statements and Quality Assurance Plan.
2. The quantities stated below indicate the minimum availability for an ordinary building work. Machinery not relevant to the scope or stage of work need not remain continuously deployed. Hired machinery and machinery supplied along with ready-mixed concrete or through specialist agencies shall be acceptable, provided availability is assured whenever required.
3. All machinery, tools and plants shall be maintained in safe and serviceable condition and shall be operated only by trained and competent personnel. Machinery requiring statutory certification, inspection or load testing shall have valid certificates.
4. The Engineer-in-Charge may require additional machinery where necessary to meet the approved work programme. Nothing extra shall be payable on this account.

Table 5: Mandatory Machinery, Tools and Plants for Civil Works

S.N.	EQUIPMENT/ MACHINERY	NUMBER TO BE DEPLOYED
1	Approved ready-mixed concrete supply arrangement or calibrated weigh-batching and mixing arrangement suitable for the concrete included in the work	As per approved concreting methodology
2	Concrete mixer of suitable capacity	1 No. where site mixing is permitted
3	Concrete pump, line pump or boom placer	Mobilised for pours where required
4	Needle vibrators of suitable diameter and capacity	3 Nos., including one standby
5	Surface/plate vibrator	1 No., where slabs, floors or paving are included
6	Reinforcement bar-cutting machine	1 No.
7	Reinforcement bar-bending machine	1 No.
8	Backhoe loader/excavator of suitable capacity	As required during excavation and backfilling

9	Power-driven earth rammer or soil compactor	1 No.
10	Vibratory plate compactor	1 No., where granular filling or paving work is included
11	Automatic level/dumpy level with tripod and levelling staff	1 Set
12	Total station with accessories	Mobilised for initial setting-out, control-point transfer and verification, where required
13	Builder's hoist or material-lifting equipment of suitable capacity	As required for multi-storey work
14	Portable welding machine complete with cables, holder and accessories	1 No., where welding work is included
15	Rotary hammer/drilling machine	2 Nos.
16	Masonry, tile or stone cutting machine with suitable blades	1 No. of each applicable type
17	Dewatering pump of suitable capacity	As required
18	Water pump, storage tanks, hoses, sprinklers and other curing arrangements	1 Complete Set
19	Generator set or alternative temporary-power arrangement of adequate capacity	Where reliable construction power is not available
20	Steel formwork, shuttering plates, beams, staging and adjustable props	Adequate for the approved pour sequence
21	Double scaffolding and working platforms complete with guardrails, toe boards, access ladders and other safety accessories	As required
22	Wheelbarrows, material trolleys, buckets, shovels, spades and general construction hand tools	Adequate quantity
23	Water tanker	As required where continuous construction water is not otherwise available
24	Digital camera or mobile device capable of clear date-recorded photographs and videos	1 No.

25	Any other machinery, tools or plants required for safe and timely completion of the work	As directed by the Engineer-in-Charge
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PART-B (CIVIL)

PARTICULAR SPECIFICATIONS AND SPECIAL CONDITIONS (CIVIL)

I) SCOPE AND GENERAL CONDITIONS FOR CIVIL WORKS

1. Scope:

- 1.1. The scope of civil works shall comprise all items and incidental operations required for complete execution, testing and handing over in accordance with the Schedule of Quantities, drawings, specifications and other agreement documents.
- 1.2. The Contractor shall prepare and submit, wherever applicable, shop drawings, coordinated drawings, material submittals, samples, method statements and as-built drawings for approval of the Engineer-in-Charge.
- 1.3. The Contractor shall obtain the statutory permissions and approvals expressly assigned to him under the agreement.

2. Coordination of Drawings:

- 2.1. Before commencing any work, the Contractor shall correlate the architectural, structural and services drawings and report any discrepancy or incomplete information to the Engineer-in-Charge.
- 2.2. Written dimensions shall prevail over scaled dimensions. Work shall not proceed on any discrepant detail without clarification from the Engineer-in-Charge.
- 2.3. Approval of drawings or setting out shall not relieve the Contractor of responsibility for correctness, coordination or compliance with the agreement.

3. Coordination with Services:

- 3.1. The Contractor shall coordinate civil works with all electrical, mechanical, plumbing, fire-fighting and other services and provide the required openings, recesses, sleeves, inserts, supports and embedded components at the appropriate stage of construction.
- 3.2. Cutting of structural members shall not be carried out without prior written approval. Permitted chases and openings shall be made using suitable power-operated equipment and properly repaired and sealed.

4. Workmanship and Resources:

- 4.1. The Contractor shall deploy competent supervision, skilled workers and suitable tools, plant and equipment appropriate to the nature, quality and programme of the work.

II) SITE ESTABLISHMENT AND MAINTENANCE FOR CIVIL WORKS

1. Site Layout and Temporary Arrangements:

- 1.1. Before commencement, the Contractor shall submit a site layout showing the proposed offices, storage areas, fabrication areas, plant,

laboratory, temporary utilities, access routes and waste-storage locations.

- 1.2. Temporary facilities shall be established only at locations approved by the Engineer-in-Charge and shall not obstruct access, drainage, services or the work of other agencies.

2. Setting Out:

- 2.1. The Contractor shall establish, verify, maintain and protect all reference points, bench marks, lines and levels required for execution of the work.
- 2.2. Any discrepancy in the supplied levels, dimensions or reference points shall be reported before commencement of the affected work.
- 2.3. The Contractor shall remain responsible for the alignment, dimensions and levels of the work and shall rectify errors attributable to him at his own cost.

3. Environmental Protection and Pollution Control:

- 3.1. The Contractor shall comply with the applicable environmental laws, Construction and Demolition Waste Management Rules, and directions of MoEFCC, CPCB, SPCB/PCC, National Green Tribunal and local authorities.
- 3.2. Construction materials and debris shall be stored only at approved locations without obstructing roads, traffic or pedestrians. Stockpiles and vehicles carrying loose materials shall be suitably covered, and vehicle tyres and access roads shall be kept free from mud and dust.
- 3.3. The Contractor shall control dust, noise and emissions by suitable barricading or wind screens, water sprinkling, wet cutting or grinding, proper maintenance of machinery, use of compliant DG sets and vehicles, and provision of appropriate personal protective equipment to workers.
- 3.4. Cement slurry, silt, oil, construction runoff or other pollutants shall not be discharged into the ground, drains or water bodies. Suitable collection, diversion, treatment, reuse or authorised disposal arrangements shall be provided.
- 3.5. All construction and demolition waste shall be segregated, reused, recycled or disposed of at authorised facilities in accordance with applicable requirements. The cost of these measures shall be included in the quoted rates.
- 3.6. Any stoppage, penalty or remedial work arising from non-compliance attributable to the Contractor shall be at his risk and cost and shall not constitute a ground for additional payment or extension of time.

4. Housekeeping and Waste Management:

- 4.1. The site shall be kept clean, orderly and free from avoidable accumulation of debris, stagnant water and surplus materials.
- 4.2. Materials and debris shall not be stored on roads, public land, access routes or areas required for subsequent construction.

- 4.3. Construction and demolition waste shall, as directed, be reused at site or transported to an authorised recycling or disposal facility in accordance with applicable statutory requirements.
- 4.4. The Contractor shall implement suitable measures for dust suppression, covered transportation, wet cutting, noise control and prevention of discharge of cement slurry, silt, oil or contaminated water into the ground, drains or waterways.

5. Scaffolding and Temporary Works:

- 5.1. The Contractor shall design, provide, inspect, maintain and remove all scaffolding, formwork, access platforms, barricades and other temporary works required for safe execution.
- 5.2. Temporary works shall comply with the applicable CPWD Specifications, safety requirements and approved method statements. Where required by the Engineer-in-Charge, their design shall be supported by calculations and drawings.

6. Drainage and Dewatering:

- 6.1. The Contractor shall maintain effective temporary drainage and keep excavations and work areas reasonably free from surface water and seepage during execution.
- 6.2. Dewatering shall be carried out by an approved method without causing instability, settlement or damage to adjoining structures, utilities or property.
- 6.3. Unless separately provided in the Schedule of Quantities, ordinary pumping, bailing and temporary drainage incidental to execution shall be included in the quoted rates. Any specially designed dewatering system shall be governed by the relevant item and tender provisions.

7. Openings, Inserts and Construction Joints:

- 7.1. Openings, recesses, sleeves, inserts and embedded components shall be coordinated and installed before concreting or masonry work. Their supply and payment shall be governed by the relevant Schedule of Quantities item or component.
- 7.2. Core cutting or subsequent openings shall be undertaken only with approval and shall be properly sealed using the specified material.
- 7.3. Construction joints shall be provided only at approved locations and treated in accordance with the drawings and applicable specifications. Unless separately provided, the associated formwork and ordinary joint preparation shall be included in the relevant concrete or RCC item.

III) QUALITY ASSURANCE MEASURES FOR CIVIL WORKS

1. General:

- 1.1. Civil works shall be executed and tested in accordance with the applicable CPWD Specifications, CPWD Quality Assurance Manual(s),

relevant Indian Standards, approved drawings, approved Quality Assurance Plan and other requirements of the agreement.

2. Quality-Control Personnel:

- 2.1. The Contractor shall deploy the quality-control and technical personnel specified in Schedule F. Where a dedicated Quality Manager is specified, such person shall be responsible for implementation and maintenance of the approved Quality Assurance Plan for the civil works.

3. Field Testing Laboratory:

- 3.1. Where required under Schedule F or elsewhere in the agreement, the Contractor shall establish and maintain a field-testing laboratory at the site with the equipment specified in the tender document and such additional equipment as may reasonably be required for carrying out the prescribed field tests.
- 3.2. The field laboratory, testing personnel, instruments, calibration and test records shall comply with the common quality-assurance provisions and the applicable CPWD Specifications and Quality Assurance Manual(s).
- 3.3. Establishment of the field laboratory shall not dispense with any mandatory independent or third-party testing required under the agreement.

4. Civil Method Statements, Checklists and Pour Cards:

- 4.1. Activity-specific method statements, Inspection and Test Plans, checklists and, where applicable, pour cards shall be submitted sufficiently in advance for important civil activities, including:
- a) Earthwork and filling.
 - b) Formwork, staging, reinforcement and concrete work.
 - c) Masonry and plastering.
 - d) Waterproofing and roof treatment.
 - e) Flooring, tiling and other finishing works.
 - f) Doors, windows and glazing.
 - g) Water-supply, sanitary and drainage works.
 - h) Concealed, embedded and other works that will subsequently be covered.
- 4.2. No concrete pour or other identified hold-point activity shall proceed until the prescribed checks have been completed and recorded.

5. Shop Drawings and Bar-Bending Schedules:

- 5.1. The Contractor shall submit, sufficiently before execution, bar-bending schedules and shop drawings for formwork, staging, temporary supports, aluminium or other fabricated works, openings, sleeves, embedded items and such other civil works as specified in the agreement or directed by the Engineer-in-Charge.
- 5.2. Review or approval of such submissions shall not relieve the Contractor

of responsibility for their correctness, adequacy, stability, safety or conformity with the agreement.

6. Water Used in Construction:

- 6.1. Water proposed to be used for mixing, curing or other construction purposes shall be tested for conformity with the applicable CPWD Specifications and relevant Indian Standards before use and thereafter at the prescribed frequency.
- 6.2. Where the proposed source is found unsuitable, the Contractor shall arrange water from an acceptable source at his own cost, unless otherwise provided in the agreement.

7. Concealed Work

- 7.1. Pipes, conduits, drains, waterproofing and other concealed work shall be inspected, tested and measured before being covered.
- 7.2. The Contractor shall give adequate notice to the Engineer-in-Charge and maintain the required test reports, measurements and photographic records. Any work covered without inspection may be required to be exposed and reinstated at the Contractor's cost.

8. Civil Quality Records:

- 8.1. The Contractor shall maintain the registers, checklists, pour cards, inspection records and test records prescribed under the applicable CPWD Quality Assurance Manual(s), approved Quality Assurance Plan and directions of the Engineer-in-Charge.
- 8.2. Such records shall be kept current, indexed and available at the site for inspection and shall be submitted at the intervals specified by the Engineer-in-Charge and as part of the completion documentation.

IV) AS BUILT DRAWINGS FOR CIVIL WORKS

- 1. The Contractor shall submit, at his own cost, four sets of prints and one editable digital copy of the approved as-built drawings before final handing over or within such period as directed by the Engineer-in-Charge.
- 2. The as-built drawings shall incorporate all changes and deviations made during execution and shall include, as applicable:
 - a) Actual layout, alignment and sizes of soil, waste, rainwater and other drainage pipes, including vertical stacks, inspection chambers, manholes and connections up to the final outfall.
 - b) Ground levels, invert levels, pipe gradients and locations and cover levels of manholes, inspection chambers, gullies and other drainage structures.
 - c) Actual layout and sizes of internal and external water-supply lines, including the locations of valves, meters, tanks, pumps, access panels and other control or isolation points.

- d) Locations and details of concealed civil services, sleeves, openings, embedded items, construction joints and other features required for future operation, maintenance or alteration.
 - e) Architectural, structural, site-development and external-service details wherever the executed work differs from the approved or issued-for-construction drawings.
3. The drawings shall be prepared to an appropriate scale, duly indexed and signed by the Contractor and the authorised technical personnel. Submission of as-built drawings shall not constitute approval of any unauthorised deviation from the agreement drawings or specifications.

SPECIAL CONDITIONS FOR CEMENT

I) GENERAL

1. The contractor shall procure 53 grade ordinary Portland Cement (OPC) conforming to IS: 8112 /Portland Pozzolona Cement (PPC) conforming to IS:1489 (Part-1) as required in the work from reputed manufacturers of cement as mentioned in LIST OF PREFERRED MAKES (CIVIL) or from any other reputed cement manufacture having a production capacity not less than 1 million Ton per annum as approved by Superintending Engineer (Trichy), CPWD, Trichy - 620 015 or his successor. The cement of approved make as aforesaid in 50 kg bags bearing manufacturer's name and ISI marking, along with manufacturers test certificate for each lot shall be procured by the contractor. Portland Pozzolona Cement is to be used for RCC works only subject to fulfilment of conditions of circular No. CDO/SE(RR)/ Fly ash (MAN) 02 dated 09.04.09. However, if the contractor uses higher grade of cement or uses OPC only nothing extra shall be paid. The use of PPC shall be regulated as per the conditions stipulated in the circular dated 09.04.2009.
2. IS:456-2000 Code of Practice for Plain and Reinforced Concrete (as amended upto date) shall be followed in regard to Concrete Mix Portion and its production as under:
 - a) The concrete mix design shall be done as "Design Mix Concrete" as prescribed in clause-9 of IS456 code with latest amendments.
 - b) Concrete shall be manufactured in accordance with clause 10 of above mentioned IS:456 with latest amendments covering quality assurance measures both technical and organisational, which shall also necessarily require a qualified Concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.
3. The mechanical properties such as modulus of elastic city, tensile strength, creep and shrinkage of fly ash mixed concrete or concrete using fly ash blended cements (PPCs) are not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC.
4. To control higher rate of carbonation in early ages of concrete both in fly ash admixed as well as PPC based concrete, water/binder ratio shall be kept as low as possible, which shall be closely monitored during concrete production.
5. If necessitated due to low water/binder ratio, required work ability shall be achieved by use of chloride free chemical admixtures conforming to IS: 9103. The compatibility of chemical admixtures and super plasticisers with each set OPC, fly ash and/or PPC received from different sources shall be ensured by trials.
6. In environment subjected to aggressive chloride or sulphate attack in

particular, use of fly ash admixed or PPC based concrete is recommended. In case, where structural concrete is exposed to excessive magnesium sulphate, fly ash substitution/content shall be limited to 18% by weight. Special type of cement with low C3A content may also be alternatively used. Durability criteria like minimum binder content and maximum water/binder ratio also need to be given due consideration in such environment.

7. Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot & arid regions, the minimum curing period shall be 14 days or its equivalent.
8. Subject to General Guidelines detailed out as above, PPC manufactured conforming to IS:1489 (Part-I) shall be treated at par with OPC for manufacture of Design Mix Concrete for structural use in RCC.
9. Till the time, BIS makes it mandatory to print the % age of fly ash on each bag of cement, the certificate from the PPC manufacturer indicating the same shall be insisted upon before allowing use of such cements in works.
10. While using PPC for structural concrete work, no further admixing of fly ash shall be permitted.
11. The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer-in-charge.
12. The cement godown of the capacity to store a minimum of 2000 bags of cement shall be constructed by the contractor at the site of work for which no extra payment shall be made. Double lock provision shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer-in-charge or his authorized representative and the keys of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-charge at any time.
13. The cement shall be got tested at a frequency of one test for 100 MT or part thereof, by Engineer-in-charge and shall be used on work only after test results have been received. The contractor shall supply free of charge the cement required for testing. The cost of test shall be borne by the contractor.
14. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by conditions therein.
15. Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge.
16. Damaged cement shall be removed from site immediately by the contractor on receipt of notice in writing from the Engineer-in-charge. If he does not do so within three days of receipt of such notice, the Engineer-in-charge

shall get it removed at the cost of the contractor.

17. Cement should be kept in godowns under double locks and keys and its consumption account in variably maintained, whether the cement is supplied departmentally or arranged by the contractor. A register should be maintained at the site for this purpose. This register should contain the columns as shown in Annexure-30. (SOP for CPWD Works Manual 2024).
18. The pages of the register should be machine numbered and each page initialed by the EE. The cement godown and the register are required to be checked by the AE/EE in-charge of the work as per following schedule:
 - a) At least weekly or fortnightly, respectively in case of works at the Headquarters of AE/EE.
 - b) Whenever they visit the site of work in case of works located outside the Sub-Divisional/Divisional Head Quarters

II) DESIGN MIX REINFORCED CEMENT CONCRETE FROM BATCH MIX PLANT OR RMC

1. Design mix is to be carried out as per IS 10262, IS 456 and other relevant IS codes / CPWD Specifications amended upto last date of bid submission.
2. The Contractor shall install fully automatic Batch Mix Plant at site or in nearby area wherever permissible. If required, Contractor will arrange concrete from RMC (Ready Mix Concrete) producing plants (located within 50 km distance from the site of work) with prior approval from Engineer-in-charge. Nothing extra shall be payable for sourcing concrete from RMC plant.
3. For all purposes, the Contractor shall carry out fully, the responsibilities of the “placement Contractor” and the “manufacturer of concrete”.
4. The Engineer-in-Charge will reserve the right to inspect at any stage and reject the concrete if he is not satisfied about quality of product at the user’s end.
5. The Engineer-in-charge reserves the right to exercise control over the: -
 - a) Ingredients, water and admixtures purchased, stored and to be used in the concrete including conducting of tests for checking quality of materials, recording of test results and declaring the materials fit or unfit for use in production of mix.
 - b) Calibration check of the RMC /Fully Automatic Batching plant.
 - c) Weight and quantity check on the ingredients, water and admixtures added for batch mixing.
 - d) Time of mixing of concrete.
 - e) Testing of fresh concrete, recordings of results and declaring the mix fit or unfit for use. This will include continuous control on the workability during production and taking corrective action, if required.
6. For exercising such control, the Engineer-in-charge shall periodically

depute his authorized representative at the RMC/Fully automatic batching plant. It shall be responsibility of the Contractor to ensure that all necessary equipment, manpower & facilities are made available to Engineer-in-Charge and/or his authorized representative at RMC/Fully automatic batching plant.

7. All required relevant records of produced and used concrete shall be made available to the Engineer-in-Charge or his authorized representative. Engineer-in-Charge shall, as required, specify guidelines & additional procedures for quality control & other parameters in respect of materials, production & transportation of concrete mix which shall be binding on the Contractor. Only concrete as approved in design mix by Engineer-in-Charge shall be produced and transported to the site.
 8. The concrete mix design with admixture will be carried out by the Contractor, at his own cost, through one of the following laboratories/Test houses to be approved by Engineer-in-charge: -
 - a) IITs, NITs or any Govt. Engineering College.
 - b) National Council for Cement & Building Materials
 - c) CRRI, Delhi.
 9. In the event of all the above laboratories being unable to carry out the requisite design/testing; the Contractor shall have to get the same done from any other reputed laboratory with prior approval of the Engineer-in-Charge.
- Note:** Admixture/ Plasticizer to be used in concrete mix design shall be PCE (Poly Caboxyl Ether) based only and agency shall quote rates accordingly. Nothing extra shall be paid on this account.
10. The contractor shall submit the mix design report from any of above approved laboratories for approval of Engineer-in-Charge within time given by Engineer-in Charge from the date of issue of letter of acceptance of the tender.
 11. In case of white Portland cement and the likely use of admixtures where CC/RCC is done with concrete pumps in concrete with ordinary Portland/white Portland cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and /or admixtures also, for which nothing extra shall be payable.
 12. Each time when there is change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised mix design shall be done and approval obtained from the approved Laboratory or as per the direction of the Engineer in-Charge. Preferably only single source of cement shall be kept for the work. In case contractor decides to use more than one source of approved cement brand then for each brand separate design mix shall be done and got approved by Engineer-in-charge.
 13. The Mix shall be designed to produce the grade of concrete having required workability and characteristic strength not less than as specified.

14. The mix design for a specified grade of concrete shall be done for a target mean compressive strength $T_{ck} = F_{ck} + 1.65 S$

Where, F_{ck} = Characteristic compressive strength at 28 days

S = Standard deviation

The standard deviation for each grade of concrete shall be calculated separately.

The degree of quality control for this work is “Good” for which the standard deviation (s) obtained for different grades of concrete shall be as follows:-

Grade of Concrete	For “Good” quality of control
M 20	4.0 MPa
M 25	4.0 MPa
M 30	5.0 MPa
M 35	5.0 MPa

15. Out of the six specimens of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength likely to be attained at 28 days. All cost of mix designing and testing connected therewith including charges payable to laboratory shall be borne by the Contractor.
16. The samples of cement, aggregate (fine & coarse) to be sent to the laboratories shall be sealed in the presence of the Engineer- in -Charge and shall have his signature and cost of packaging, sealing, transportation, loading, unloading, cost of samples and the testing charges for Mix design in all cases shall be borne by the contractor.
17. Notwithstanding the approval granted by Engineer-in-Charge in aforesaid manner, the contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.
18. The Engineer-in-Charge reserves the right to exercise control over the ingredients, water and admixtures, purchased, stored and to be used in the concrete including conducting of tests for checking quality of materials fit or unfit for use in production of mix.
19. The Contractor shall submit the test data of the material used for concrete mix-design in the laboratories, so the material being used at site can be compared with those data / size etc.
20. In case of change of parameters of ingredients (fine aggregate, cement, coarse aggregate) fresh concrete mix-design to be done as mentioned in above paras and got approved from the Engineer-in-Charge before execution.
21. The contractor shall make arrangement to install a mini laboratory at site for accelerated testing of design mix concrete as per IS: 9013. The department reserves right to take samples of design mix concrete from the mass production of the concrete for testing and compare with the laboratory's results.

22. Nothing shall be paid extra for installation and cost of batching plant and other arrangement for making necessary test of design mix concrete.
23. The item of design mix cement concrete shall be inclusive of all the ingredients including admixtures if required, labour, machinery T & P etc. (except shuttering which will be measured & paid for separately) required for a design mix concrete of required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of change in quantities of concrete ingredients like aggregates and admixtures as per the approved mix design.
24. Concrete shall be handled from the place of mixing to the place of final deposit / placement by methods, which prevent segregation, or loss of any ingredients and contamination.
25. Where concrete is conveyed by chutes, the chute shall be made of metal or fitted with metal lining. The approval of the Engineer-in-charge shall be obtained for the use of chutes in excess of 3 meters length and in such cases the concrete shall be remixed if so required by the Engineer-in-Charge or closed bottom buckets shall be used. If concrete is placed by pumping, the conduit shall be primed properly. Once pumping is started, it shall not be interrupted as far as possible. Concrete shall not be dropped into place from a height more than 1.5m.
26. Concreting of any portion of the work shall be done in presence of the representative of the Engineer-in-Charge and shall be done only after approval of the Engineer-in Charge.
27. Concreting shall be carried out continuously between constructions joints shown on the drawings or as agreed by the Engineer-in-Charge. The contractor shall closely follow the sequence of concreting where it is specified in the drawings. If concreting is interrupted before reaching the predetermined joint an approved construction joint shall be provided. Construction joints shall be minimized as far as possible. These shall be set at right angles to the general direction of the member. The surface film of the first placed concrete should preferably be removed while the concrete is still green to expose the aggregate and leave a sound irregular surface. However, care shall be taken not to disturb the concrete already laid.
28. Admixtures: Wherever required, admixtures of approved quality only shall be mixed with concrete as specified. The admixtures shall conform to IS: 9103. The chloride content in the admixture shall satisfy the requirements of BS: 5075. The total amount of chlorides in the admixture mixed concrete shall also satisfy the requirements of IS 456-2000.
29. Use of ready mixed concrete (RMC) may also be permitted, with prior approval of Engineer -in - Charge, without any extra payment. Separate account of design mix concrete and RMC shall however be kept. The ready mixed concrete shall conform to the requirement of durability, workability and strength as laid down for design mix concrete.

30. Use of Fly Ash and Fly Ash Blended Cements in RCC Structures: -

- a) The concrete mix design shall be done as “Design Mix Concrete” as prescribed in clause – 9 of IS 456 mentioned above.
- b) Concrete shall be manufactured in accordance with clause 10 of above mentioned IS: 456 covering quality assurance measures both technical and organizational, which shall also necessarily require a qualified Concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.
- c) The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of fly ash mixed concrete or concrete using fly ash blended cements (PPCs) should not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC. Fly ash when used in the production of concrete shall be strictly in conformity with IS : 3812 (Para 1 & 10).
- d) To control higher rate of carbonation in early ages of concrete both in flyash admixed as well as PPC based concrete, water / binder ratio shall be kept as low as possible, which shall be closely monitored during concrete manufacture. If necessitated due to low water / binder ratio, required workability shall be achieved by use of chloride free chemical admixtures conforming to IS: 9103. The compatibility of chemical admixtures and super plasticizers with each set OPC, fly ash and / or PPC received from different sources shall be ensured by trials.
- e) In environment subjected to aggressive chloride or sulphate attack in particular, use of flyash admixed or PPC based concrete is recommended. In cases, where structural concrete is exposed to excessive magnesium sulphate, flyash substitution / content shall be limited to 18% by weight. Special type of cement with low C3A content may also be alternatively used. Durability criteria like minimum binder content and maximum water / binder ratio also need to be given due consideration in such environment.
- f) Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot and arid regions, the minimum curing period shall be 14 days or its equivalent.

31. Use of Flyash Admixed Cement Concrete (FACC) in RCC Structures

There shall be no bar on use of FACC in RCC structures subject to following additional conditions: -

- a) Flyash shall have its chemical characteristics and physical requirements etc. conforming to IS: 3812 (Part-10) and shall be duly certified.
- b) To ensure uniform blending of fly ash with cement in conformity with IS: 456, a specific facility needs to be created at site with complete computerized automated process control to achieve design quality or with similar facility from Ready Mix concrete (RMC) plants.

- c) As per IS: 1489 (Part-I), Maximum 35% of OPC by mass is permitted to be substituted with fly ash conforming to IS: 3812 (Part-I) and same is reiterated.
- d) Separate storage for dry fly ash shall be provided. Storage bins or silos shall be weather proof and permit a free flow and efficient discharge of fly ash. The filter or dust control system provided in the bins or silos shall be of sufficient size to allow delivery of fly ash maintained at specified pressure to prevent undue emission of fly ash dust, which may interfere weighing accuracy.

32. Conditions for Ready-mix concrete: -

- 32.1. The contractor can use concrete from RMC plants also with prior approval of the Engineer in-charge, instead of preparing the same in central batching plant at site within agreement item of Batch Mix Plant without any extra cost, looking to expedite the progress and need of work. However, for procuring RMC from approved plant the contractor shall follow the following conditions. Nothing extra shall be payable to the contractor for procuring RMC from the external plant.
- 32.2. For procurement of ready-mix concrete from approved RMC plants, the contractor shall, within 15 days of award of the work, submit list of at least three RMC plant companies of repute along with details of transit mixer and pumps etc. to be deployed indicating name of owner/company, its location capacity, technical establishment, past experience and text of MOU proposed to be entered between purchaser (the contractor) and supplier (RMC Plant). The Engineer – in – Charge shall give approval in writing (subject to draw of MOU). The contractor shall draw the MOU with approved RMC plant owner / company and submit to Engineer – in – Charge within a week of such approval. The contractor will not be allowed to purchase ready mixed – concrete without completion of above stated formalities for use in this project. Notwithstanding the approval granted by Engineer-in-charge in aforesaid manner, the contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.
- 32.3. The Engineer-in-charge will reserve right to inspect at any such stage and reject the concrete if he is not satisfied about quality of product. The contractor should therefore draw MOU / agreement with RMC owner / company very carefully, keeping all terms and conditions / specifications forming a part of this tender document. Including the following controls.
- 32.4. The Engineer-in-charge reserves the right to exercise control over the ingredients, water and admixtures purchased, stored and to be used in the concrete including conducting of tests for checking quality of Materials, recordings of test results and declaring the Materials fit or unfit for use in production of mix etc.
- 32.5. The ready-mix concrete should be produced in RMC plant using fully automatic batching plant having capacity to produce 30 cum/hr. The plant

should have computerized control and shall give print out of all the ingredients.

- 32.6. All required relevant records of RMC shall be made available to the Engineer-in-charge or his authorized representative. Engineer-in-charge shall, as required specify guidelines & additional procedures for quality control & other parameters in respect of materials and production & transportation of concrete mix, which shall be binding on the contractor & the RMC plant.
- 32.7. Grade OPC/ PPC as per schedule of the contract (conforming to relevant IS Codes) of brand / make / source as approved by Engineer-in-charge shall only be used for production of concrete.
- 32.8. The RMC produced concrete be accepted by Engineer-in-Charge at site after receipt of the same after fulfilling all the requirements of mix mentioned in the tender documents. The item of design mix cement concrete shall be inclusive of all the ingredients including admixtures if required, labour, machinery, T&P etc. required for a design mix concrete of required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of change in quantities of concrete ingredients like cement and aggregates and admixtures etc. as per the approved mix design.
- 32.9. Ready mix concrete shall be arranged in quality as required at site of work by transportation in a transit mixer. [The general conditions of transit mixer and other requirement shall conform to IS:5892.] Ready mix concrete shall be supplied as per the pre-agreed schedule approved by Engineer-in-charge.
- 32.10. All other operations in concreting work like Mixing, Slump, transportation, laying / placing of concrete, compaction, curing etc. not mentioned in this particular specification for Design Mix Concrete shall be as per IS : 456-2000 or amended thereafter.
- 32.11. For design mix concrete of RCC other than those specified above, the contractor shall use the Design mix concrete produced by a central batching and mixing plant at his own cost. The contractor, if he so desires, can arrange the design mix concrete also from Ready mix concrete producer after obtaining written approval of the Engineer-in charge. Nothing extra whatsoever shall be payable on this account.
- 32.12. Ready mix concrete shall be arranged in quantity as required at site of work. The ready-mix concrete shall be supplied as per the pre-agreed schedule approved by Engineer-in charge. Nothing extra shall be payable on this account.
- 32.13. The item of design mix cement concrete (produced at site as well as arranged from RMC producer) shall be inclusive of all the ingredients including admixtures if required, labour, machinery, transportation etc. (except reinforcement and shuttering which will be measured & paid as per provision of contract) required for a design mix concrete of

required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of changes in quantities of concrete ingredients like cement and aggregates and admixtures etc. as per approved mix design except for quantity of extra cement payable as per schedule of quantity. Other operations in concreting work like Mixing, Slump, transportation, laying / placing of concrete, compaction, curing etc. not mentioned in this particular specification for Design Mix of Concrete shall be as per IS: 456-2000.

33. Ultrasonic Pulse Velocity Method of Test for RCC

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

Sl. No.	Pulse velocity by Cross Probing (km/sec)	Concrete Quality Grading
1	Above 4.40	Excellent
2	3.75 to 4.40	Good
3	3.0 to 3.75	Doubtful
4	Below 3.0	Poor

(Note: In Case of “doubtful” quality it may be necessary to carry further tests. Poor shall be rejected)

- 33.4. Pulse velocity method of test of concrete is to be conducted for CPWD works as a routine test. The acceptance criteria as per the above table will be applicable which is as per IS:516 (Part-5 Sec-I) 2018. From the above “Good” and “Excellent” grading are acceptable and below these grading the concrete will not be acceptable.
- 33.5. 5% of the total number of RCC members in each category i.e. beam, column, slab and footing may be tested by UPV test method for establishing quality of concrete. It is suggested that test be conducted on RCC beam near joint with column, on RCC column near joint with beam, on RCC footings and rafts. On RCC rafts a suitable grid can be worked out for determining number of tests. In addition, doubtful areas such as honeycombed locations, locations, where continuous seepage is observed,

construction joints and visible loose pockets will also be tested.

- 33.6. The test results are to be examined in view of the above acceptance criteria “Good” and “Excellent” and wherever concrete is found with less than required quality as per acceptance criteria, repairs to concrete will be made. Honeycombed areas and loose pockets will be repaired by grouting using Portland Cement Mortar / Polymer Modified Cement Mortar / Epoxy Mortar, etc., after chipping loose concrete in appropriate manner. In areas where concrete is found below acceptance criteria and defects are not apparently visible on surface, injecting approved grout in appropriate proportion using epoxy grout / acrylic Polymer modified cements slurry made with shrinkage compensating cement / plain cement slurry etc will be resorted to for repairs (refer relevant chapters from CPWD Hand Book on Repairs and Rehabilitation of RCC Buildings). Repair to concrete will be done till satisfactory results are obtained as per the acceptance criteria by retesting of the repaired area. If satisfactory results are not obtained dismantling and relaying of concrete will be done at the cost of contractor.

- 33.7. The testing charge shall be borne by the contractor.

34. Cover / Spacer Block

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

III) SHUTTERING / FORM WORK:

1. The work shall be done in accordance with CPWD Specifications - 2019-Vol.I& Vol. II with upto date correction slips.
2. Film coated marine plywood shuttering/ Steel shuttering as approved by the Engineer-in-Charge shall be used by the contractor. Minimum size of shuttering plates shall be 600mm x 900mm except for the case when closing pieces required completing the shuttering panels. Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.
3. The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or deboning compound shall be applied on the surface of the shutter plates in the requisite quantity before assembly of steel reinforcement.

4. For the execution of centering and shuttering, the contractor shall use propriety "Reebole" chemical mould release agent of FOSROC or equivalent as shuttering oil as approved by Engineer in charge and nothing extra shall be paid on this account.
5. The joint filler shall be resilient closed cell expanded polyethene and non-tainting as manufactured by Supreme Industries Ltd.
6. Providing joint filler of required thickness in position to substrate using either double sided foam adhesive tape or neoprene synthetic rubber adhesive. When forming expansion joint with the Board in in-situ concrete, joint sealing slots can be readily formed in the following matter-
 - a) Before installing, simply cut off a strip of the required depth. Then install the filler flush with the finished surface.
 - b) Prior to sealing, the top strip can then be pulled easily from the joint to provide an uncontaminated sealing slot ready for preparation and sealing.
7. Plywood and steel plates used in the formwork for obtaining exposed surfaces shall be got approved from Engineer-in-Charge on each use. However, no forms will be allowed for reuse if it is doubtful to produce desired texture of exposed concrete.
8. Class of Surface Finish: -
 - 8.1. For Beams & Slabs: The finish shall be uniform, dense and smooth. no grout, no grain pattern, no crazing and no major blemishes shall be permitted. Abrupt irregularities not exceeding 3mm and gradual irregularities less than 5mm in 2m length only shall be permitted.
 - 8.2. For Columns/Wall/Fins: The finish shall be uniform and smooth leveling the surface of the compacted concrete shall be done with a screed board with power floating the surface and over that steel trowelling the surface under firm pressure characteristics of finish shall be brush marks < 3mm gradual irregularities less than 10mm in 2m.
 - 8.3. Tolerance in Finished Concrete: - The formwork shall be so made as to produce a finished concrete true to shape, lines, level, plumb and dimensions as shown in the drawings subject to the following tolerance unless otherwise specified in this specification or drawings.
9. Wall/Column/Fins:
 - a) Variation from the plumb $\pm$ 6mm Upto 3m height
 - b) Variation from the plumb of $\pm$ 6mm Upto 6m height conspicuous liner
 - c) Variation in the size of (+)15mm wall openings (-) 6mm
 - d) Variation in parapet wall thickness (a) Upto 30cm thickness $\pm$ 6mm
10. Slab, Beam & Girder Forms:
 - 10.1. Variation from the level or from the specified grid for beam soffit before removal of shores,

- a) In any $3\text{m} \pm 6\text{mm}$
- b) In any $6\text{m} \pm 10\text{mm}$

- 10.2. All the tolerances mentioned above shall apply to concrete dimensions only, and not to positioning of vertical steel or dowels. The tolerances given above are specified for local aberration in the finished concrete surface and should not be taken as tolerance for the entire structure taken as whole for the setting and alignment of formwork. Any error, within the above tolerance limits, or any other if noticed in any of the structure after part or portion stripping of forms, shall be corrected in the subsequent work to bring back the structure to its true line, level and alignment.
- 10.3. All items of work shall be considered as inclusive of pumping out or bailing out water, if required, for which no extra payment shall be made. This will include water coming from any source, such as rains, accumulated rain water, floods, leakages from sewer and water mains, subsoil water table being high or due to any other cause whatsoever. The contractor shall make necessary provision of pumping, dredging and bailing out water coming from all above sources and excavation and other works shall be kept free of water by providing suitable system approved by the Engineer-in-Charge
11. As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 12 to 20 mm or as required, lower than general floors shuttering should be adjusted accordingly. The landing level of mumty / Staircase cabin shall be kept one riser level higher than adjoining slab level so as to accommodate water proofing treatment over terrace slab. In case of kitchen slab the portion of floor trap below kitchen platform be kept at lower level as per drawings. Nothing extra is payable on this account.

SPECIAL CONDITIONS FOR STEEL

I) SPECIAL CONDITIONS FOR TMT STEEL/LOW ALLOY STEEL):-

1. The Contractor shall procure ISI marked TMT reinforcement bars of various grades of **Bar Set-II** conforming to the criteria mentioned in OM No. CSQ / SE (TAS) / EE(TAD) / Steel /2021/50-H dated 17.02.2021 & in the OM No. CSQ/SE(TAS)/Steel/2024/262-H dated 14/08/2024 and OM No. CSQ/SE(TAS)/Steel/2024/85-H dated 09/04/2025 issued by CPWD Directorate and this tender document only from Reputed Steel manufacturers as mentioned in *LIST OF PREFERRED MAKES (CIVIL)*.
2. For reinforced cement concrete or pre-stressed concrete works, the reinforcement bars shall consist of the following grades conforming to IS 1786: 2008 (Indian Standard specification for high strength deformed steel bars and wires for concrete reinforcement): Fe 550D or more grade.
3. The contract shall obtain manufacturer's certificate stating the process of manufacturer, chemical composition and test sheet giving result of each mechanical test applicable to the material purchased and submit it to the Engineer-in-Charge. Each test certificate shall indicate the number of the cast to which it applies corresponding to the number or identification mark to be found on the material.
4. The steel reinforcement bars shall be brought to the site in bulk supply of ten tones or more as decided by the Engineer-in-charge.
5. The steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking. All reinforcement bars should be made corrosion resistant by applying suitable coating so as to be fit for use in coastal region. Nothing extra shall be paid on this account.
6. For checking nominal mass, tensile strength, bend test, re-bend test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

Size of bar	For consignment below 100 tonnes	For consignment above 100 tonnes
Under 10 mm dia bars	One sample for each 25 Tones or part thereof.	One sample for each 40 Tones or part
10mm to 16mm Dia bars	One sample for each 35 tonnes or part thereof.	One sample for each tones or part thereof.
Over 16 mm dia bars	One sample for each 45 tonnes or part thereof.	One sample for each tones or part thereof.

7. The contractor shall supply free of charge the steel required for testing

including transportation to testing laboratories. The cost of tests shall be borne by the contractor.

8. The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as procedure prescribed in clause 38 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations leading to under designing of the structural. The work shall be summarily rejected, otherwise recovery at the rate so prescribed shall be made after ensuring structural soundness and stability. In case of excess consumption, no adjustment needs to be made.
9. The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.
10. The contractor shall submit original vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be used in the work. All consignment received at the work site shall be inspected by the Site staff along with the relevant documents before acceptance. The contractor shall obtain Original Vouchers and Test Certificates and furnish the same to the Engineer-in-Charge in respect of all the lots of steel brought by him from approved supplier to the site of work. The original vouchers and test certificates shall be defaced by the Site staff and kept on recording the site office.
11. Reinforcement including authorized spacer bars and laps shall be measured in length of different diameters as actually (not more than as specified in the drawings) used in the work nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.
12. The standard sectional weights referred to as in Table 5.4 in para 5.3.4 in CPWD Specifications will be considered for conversion of length of various sizes of M.S. Bars,
13. Steel Bars and T.M.T. bars in to Standard Weight.
14. Records of actual Sectional weights shall also be kept dia-wise and lot-wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer-in-Charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as Derived Actual Weight. However, for the stipulated issue of steel reinforcement up to and including 10mm diameter bars, the actual weight of steel issued shall be modified to taken into account the variation between the actual and the standard coefficients and the contractors' accounts will be debited by the cost of modified quantity.

- a) If the Derived Weight as in sub-para above is less than the Standard Weight as in Sub-para above then the Derived Actual Weight shall be taken for payment provided, if it is within the following tolerances specified in IS 1786-2008, otherwise whole lot will be rejected.

b) Tolerances on Nominal Mass

Nominal Size in mm	Tolerance on Nominal mass Percent		
	Batch	Individual Sample*	Individual sample for coil**
Upto and including 10 mm	+7	-8	+8
Over 10mm and upto 16 mm	+5	-6	+6
Over 16 mm	+3	-4	+4

* For individual sample plus tolerance is not specified.

**For coils batch tolerance is not specified.

- c) If the Derived Actual Weight is found more than the Standard Weight, the Standard Weight as per in sub-para above shall be taken for payment. In such case nothing extra shall be paid for the difference between the Derived Actual Weight and the Standard Weight. The standard weight of TMT bars in CPWD specification will be considered for CRS bars standard weight.

II) SPECIAL CONDITION FOR STRUCTURAL STEEL (TEE, ANGLE, CHANNEL, STRUCTURAL TUBES AND PLATES & R.S . JOIST):-

1. The contractor shall procure Structural steel (Tee, Angle, Channel, Structural Tubes and plates & R.S. joist) only from Reputed Steel manufacturers as mentioned in *LIST OF PREFERRED MAKES (CIVIL)*.
2. In case of non-availability of structural steel from primary producers the NIT approving authority may permit use of structural steel procured from steel producers having valid BIS licence confirming to IS -2062-2006.
3. Samples shall be taken and got tested by the Engineer-in-charge confirming to relevant BIS code. In case the test results indicate that the structural steel arranged by the contractor does not conform to the specification, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week's time or written orders from the Engineer-in-charge to do so.
4. The structural steel shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account.
5. The contractor shall supply free of charge the structural steel sample required for testing including its transportation to testing laboratories. The cost of test shall be borne by the department if it confirms to relevant

BIS code else the testing charges shall be borne by the contractor.

6. The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.
7. If the actual weight of structural steel to be used in the work differs from standard weight, the following procedure shall be followed for arriving at the quantity for payment.
 - a) If the actual weight is more than standard weight only standard weight shall be considered for payment.
 - b) If the actual weight is less than standard weight but within the permissible variation, only actual weight shall be considered for payment.

SPECIAL CONDITIONS FOR OTHER CIVIL WORKS

I) FINISHING

1. The work shall be carried out as per applicable CPWD Specifications.
2. The plastering work shall be carried out as per applicable CPWD Specifications.
3. Necessary Geo-synthetic fibre / GI chicken wire mesh of minimum 200 mm wide shall be provided at junctions of dissimilar materials (i.e. masonry walls with RCC members etc.) before plastering on inner and outside of junctions.
4. Necessary grooves shall be provided at the junction of dissimilar materials (on inner and outer side of junctions) and shall be neatly finished wherever directed by Engineer in Charge. Necessary drip course shall be provided in Chajjas, Balcony, Projecting Roof, Beams etc.
5. Nothing extra shall be payable for the items mentioned at (3) & (4) above.
6. The Primer, Synthetic Enamel paint, distemper, acrylic emulsion paint, etc., of makes as approved by the Engineer in charge and of low VOC, shall only be used and brought to the site of work in the original sealed containers. The material brought to the site of work shall be sufficient for at least 60 days of work or as decided by the Engineer in charge. The material shall be kept under the joint custody of contractor and representative of the Engineer in charge. The empty containers shall not be removed from the site till the completion of the work without permission of the Engineer in charge.

II) CONSTRUCTION JOINTS

1. Construction joints in PCC, RCC and Light Weight Concrete works etc., shall be provided only at places as per approved structural drawings. It shall not in any manner structurally or functionally affect the structure. If, any additional construction joint is required to be provided, it shall be done with approval of the Engineer in charge. The centring, shuttering, strutting etc., required for the construction joint in PCC, RCC and Light Weight Concrete works shall be provided as per the CPWD Specifications. Nothing extra shall be payable on this account.
2. **Treatment to the construction joints and rectification of defects:**
 - 2.1. All care shall be taken to minimize the number of construction joints in the basement raft and walls as well as in the levelling course of PCC at base. Still, wherever the construction joints are provided, these shall be slightly opened up and then suitably filled with cement mortar 1:3 (1 cement: 3 fine sand) after applying a bond coat of cement slurry. The aluminium nipples shall be fixed in the cavity and crevices, if required.

Then cement slurry of w/c ratio 0.5 shall be pressure grouted through these nipples as required, which shall then be suitably cut. Nothing extra shall be payable on this account.

- 2.2. All care shall be taken to avoid any honey combed concrete or any cavity. Still, if any honey combed concrete or cavity in RCC wall is encountered the same shall be rectified by removing all loose concrete by chiseling. The chipped concrete surface shall be cleaned and made dust free by blowing compressed air and then washed clean with water (but without excess water). Then a bond coat of polymer modified cement slurry @ 2.2 kg of cement per sqm of concrete surface, in two coats, shall be applied as specified. The second coat shall be applied immediately within 15-20 minutes of application of the first coat. A coat of polymer modified cement plaster of mix 1:3 (1 cement: 3 fine sand) of the required thickness shall be applied as specified to fill the cavity if the required thickness is less than 20 mm. If the required thickness is more than 20 mm. the cavity shall be filled by concrete of relevant grade after providing the required centering and shuttering. The surface shall then be moist cured for minimum 7 days. Nothing extra shall be payable on this account.

III) EXPANSION JOINT

1. General Seismic / separation joints shall be provided where shown on the drawings. They shall be constructed with in gap between the adjoining parts for the works of the width specified in the drawings.
2. The contractor shall ensure that no debris is allowed to enter and be lodged in seismic and separation joints.
3. Seismic or separation joints shall be provided with approved 50mm thickness of compressible filler board, backer rod and polysulphide sealant compound etc.,
4. Board to be used in expansion joint shall be of best approved quality and shall be got approved before use. It shall have minimum density of 95 kg/cum, Non staining with less than 1% water absorption and compression recovery of 93% minimum as per the specifications.

5. Method of Application:

- 5.1. expansion board having sufficient width and thickness directed by Engineer in charge shall be provided in expansion joint before filling and finishing the expansion joint with sealant.
- 5.2. The expansion joint shall be cleaned and made dry completely. All loose materials shall also be removed. The joints gap shall be made uniform in width and depth after cleaning the joints. The backup materials of best quality shall be provided in position in order to produce the size of joint i.e. width and depth. The primer part of I and II shall be mixed thoroughly together in required proportion as

prescribed by manufacture specification, so that a uniform mixture obtained. The mixed solution shall be applied to two sides of the joint that it covers the sides complete.

- 5.3. Disturbed edges of RCC members near expansion joints shall be finished with rich mortar without any extra work includes providing required width of expansion board in the joints and measurement of expansion board only shall be taken.

6. Sampling criteria:

- 6.1. Following test carried out at every 100 sqm:

- a) Density
- b) Water absorption
- c) Compression recovery

APPENDICES OF FORMS FOR (PART-B)

**PROFORMA FOR MANDATORY TESTS TO BE ATTACHED WITH RUNNING
BILLS (APPENDIX-B1)**

Name of the work: Name of Contractor.....
Agreement no. and date R/A Bill No.....

Sl. No.	Item	Quantities as per agreement	Frequency as per specification	No. of tests required	Upto date Quantity	No. of tests required	No. of tests actually done	Remarks
1	2	3	4	5	6	7	8	9

LIST OF PREFERRED MAKES (CIVIL)

1. The contractor shall obtain prior written approval of the specific make, model, grade and source before procurement. Listing of a make does not constitute blanket approval of every product manufactured or marketed under that make.
2. All materials shall comply with the Schedule of Quantities, drawings, applicable CPWD Specifications, relevant BIS standards, statutory requirements and specified performance criteria. The more stringent express requirement of the contract shall govern.
3. The contractor shall submit the manufacturer's technical data, BIS licence/markings where applicable, test certificates, warranty, samples, shade/finish details, country of origin and authorised-dealer/OEM documents required for approval.
4. In general, all materials to be used in the work shall bear the BIS Standard Mark wherever applicable. Where BIS certification is not available for a particular material or product, such material or product may be used only if it conforms to the applicable CPWD Specifications and relevant BIS Standards. Prior written approval of the Engineer-in-Charge shall be obtained before its use in the work.
 - 4.1. Where no applicable BIS Standard is available, the Engineer-in-Charge may require the material or product to be tested in accordance with the relevant ASTM, EN, IEC, BS or other internationally recognised standards. Such material or product shall be permitted for use only after the Engineer-in-Charge is satisfied with the test results and its suitability for the intended application.
 - 4.2. All costs and charges associated with sampling, transportation, testing, retesting, and submission of test reports shall be borne by the contractor, and nothing extra shall be payable on this account.
5. For proprietary systems, the complete system, including primers, adhesives, accessories, seals, fasteners, hardware and application procedure, shall be from the same OEM or shall be certified by the principal OEM as compatible. Fire-rated and performance-tested assemblies shall be supplied as complete tested systems.
6. An alternative make may be considered only where the listed makes are unavailable in adequate competition.
 - 6.1. The alternative make shall be equal or superior in specified performance and shall require prior approval of the competent authority.
 - 6.2. Where the prevailing market rate of the substituted make is lower than that of the specified make, the corresponding difference in cost shall be recovered from the contractor. No additional payment or cost adjustment shall be admissible where the substituted brand is costlier than the specified brand.
7. No material shall be ordered or incorporated merely on the basis of brand

name. The contractor remains responsible for conformity, durability, suitability and performance notwithstanding approval of the make or sample.

8. Procurement shall comply with the Public Procurement (Preference to Make in India) Order, restrictions relating to bidders/manufacturers from countries sharing a land border with India, and other Government instructions applicable on the last date of submission of the tender.

I) CEMENT, CONCRETE, MASONRY AND STEEL

S.N.	Material / Product	Approved Makes / Requirement
1	Anti-termite treatment chemical	Dursban TC; Premise; Pyramid; Noban; Hilban; Sarup's Pest Control
2	OPC/PPC cement of specified type and grade	ACC; UltraTech; Coromandel; Birla; Chettinad; Bharathi; Dalmia; Zuari; JSW Cement; Jaypee Cement; Maha Cement; JK Cement; Ambuja Cement; Penna Cement; Konark Cement; Century Cement/Birla Gold; Shree Cement; Ramco Cement; Sagar Cement; Emami Cement
3	White cement	Birla White; JK White
4	TMT reinforcement bars	SAIL; Tata Steel; RINL/Vizag Steel; JSW Steel; Jindal Steel & Power - subject to the latest applicable CPWD Bar Set-II instructions
5	Structural steel sections and plates	SAIL; Tata Steel; RINL/Vizag Steel; JSW Steel
6	MS/ERW structural pipes and tubes	SAIL; Tata Steel; METPRO; R.K. Steel; APL Apollo; Kalinga; Jindal Pipes/Jindal (India); Nezone
7	Stainless-steel sheets, pipes, tubes and sections	Jindal Stainless; SAIL; Kingston; Connect
8	Ready-mixed concrete	UltraTech Concrete; ACC; RMC India; Lafarge; Bharat Ready Mix; Yagappa Ready Mix
9	AAC blocks	UltraTech Xtralite; HIL Aerocon; Siporex; Nucon; Renacon
10	AAC block adhesive / factory-made dry mortar	UltraTech; Ardex Endura; Ferrous Crete; Asian Paints SmartCare; Berger Tile Adhesive

S.N.	Material / Product	Approved Makes / Requirement
11	Concrete plasticiser / superplasticiser	MC-Bauchemie (Contrament/Powerflow); Sunanda; Sika; Fosroc; Chryso; MYK Schomburg; BASF; CIC0; Asian Paints SmartCare; KCPL
12	Non-shrink cementitious grout	Fosroc GP2; Mapei Mapefill GP IN; Sika; BASF; Ardex Endura; MYK Schomburg; Ferrous Crete; Asian Paints SmartCare; KCPL; Pidilite Dr. Fixit; Saint-Gobain Weber
13	Epoxy grout / resin grout	Ardex Endura; MYK Laticrete (Latapoxy); Kerakoll (Fugabella/Porcelana); Mapei (Kerapoxy); Pidilite Dr. Fixit
14	Polymer repair mortar / micro-concrete	Mapei; Pidilite Dr. Fixit; Ferrous Crete; Fosroc; CIC0; Sika; BASF; MYK Schomburg; Asian Paints SmartCare; Sunanda; KCPL
15	Chemical anchoring system	Hilti; Fischer; Wurth; Bosch; Nutech; Helfen; Anchor; Kundan; Cannon; Trixel
16	Mechanical reinforcement couplers	Dextra; Sanfield
17	Post-tensioning system, where specified	CRUX; VSL; Ultracon; BBR
18	Prestressing strands, where specified	DP Wires; Tata Wiron; Usha Martin
19	Bitumen-impregnated expansion-joint filler board	Supreme (Dura Board HD100/Durafill); STP (Shalitex)
20	PVC/rubber/hydrophilic waterstops	Hydrotite; Hydrowell; BASF; Pidilite Dr. Fixit; Ardex Endura; Ferrous Crete; Asian Paints SmartCare

II) WATERPROOFING, CONSTRUCTION CHEMICALS AND SEALANTS

S.N.	Material / Product	Approved Makes / Requirement
1	Integral waterproofing compound	Fosroc; Sika; Pidilite Dr. Fixit; CIC0; Impermo; Accoproof; Ardex Endura; Alchemica; Ferrous Crete; MYK Schomburg; Penetron; Asian Paints SmartCare; Berger Cementmix; STP Shaliplast LW+; Mapei Mapecure; KCPL
2	Cementitious waterproofing system	BASF; MC-Bauchemie; Sika; Sunanda; Perma; Fosroc; Pidilite Dr. Fixit; Ferrous Crete; Asian Paints SmartCare; Berger Latexshield/Tankshield; KCPL; Ardex Endura; Mapei

S.N.	Material / Product	Approved Makes / Requirement
3	Liquid-applied acrylic / polyurethane waterproofing membrane	BASF; STP; Texsa; W.R. Grace; Pidilite Dr. Fixit; Alchemica; Hydrotech; Ferrous Crete; MYK Schomburg; Asian Paints SmartCare; Ardex Endura; Mapei; Sunanda; KCPL; Berger; Sika; Fosroc
4	APP/SBS modified bituminous membrane	STP; Ferrous Crete; Bitumat; Pidilite; Ardex Endura; Hydrotech; Asian Paints SmartCare; Berger Proshield; IWL
5	Crystalline waterproofing system	Penetron
6	PU/epoxy injection grout for cracks and joints	Fosroc; STP (Shalibond); CICO Poxy; Ardex Endura; Ferrous Crete; Asian Paints; Huntsman; Pidilite
7	Polysulphide / polyurethane joint sealant	Pidilite Dr. Fixit; BASF; Fosroc; Techseal/Choksey; Tuffseal/Bondit; Ferrous Crete; MYK Schomburg; STP; Asian Paints SmartCare
8	Weather / structural silicone sealant	Dow Corning (DOWSIL); Wacker; GE/Momentive; Fosroc; BASF; STP; Asian Paints SmartCare
9	Polyethylene backer rod	Supreme
10	Tile/stone adhesive and joint grout	Dunlop; Vam Organic; Sika; Pidilite/Fevicol; Fosroc; CICO; Mapei; Asian Paints SmartCare; Ardex Endura; MYK Laticrete; Kerakoll; Saint-Gobain Weber; Ferrous Crete; BASF; MYK Schomburg; KCPL

III) WOODWORK, DOORS, WINDOWS AND ARCHITECTURAL HARDWARE

S.N.	Material / Product	Approved Makes / Requirement
1	BWP/BWR plywood and blockboard	Jayna Ply; Greenpanel; Archidply; Kitply; Duro; CenturyPly; Wuudply
2	Factory-made flush doors	Jayna Ply; Raavela; Kailash; Shakti; Greenlam; Mayur; MP Wood Products; Archidply; DEC; Greenpanel; Jain Doors; Indian Timber Products; Kitply; Duro; Kenwood; Century
3	MDF/HDF/HDHMR/particle board	Novopan; Merino; Kitlam/Kitply; Ecoboard; Associate Decor; Archidply; Action TESA; Century MDF; Greenlam; Greenpanel; Pergo; Armstrong; Greenply

S.N.	Material / Product	Approved Makes / Requirement
4	Decorative laminates	Greenlam; Century; Merino; Royale Touche; Kitmica; Formica; Decolam; Archidply; Sonear; Sunmica; Vidya Ply
5	Natural decorative veneers	Greenpanel; Century
6	FRP door shutters and frames	Jain Doors; Signum; Meena Fibre Glass; Duroplast; Cactus; Polyline
7	Fire-rated steel doorsets	Shakti Hormann; Promat; Godrej; Signum Fire; MPP Schoders; Navair; Sukri; Kenwood
8	Fire-rated timber/composite doorsets	Navair; Promat; Godrej; Kenwood
9	uPVC door and window systems	Fenesta; Qute; LG Hausys; Kommerling; Duroplast; Polyline; Aparna Venster; AMD; Rajshri; NCL VEKA; Prominace; Marcolini; Akshara Polymers; Encraft; REHAU; Aluplast; Shirke
10	System aluminium doors and windows	Hindalco; Jindal Aluminium; Bhoruka; Indal; Padmavathi Extrusion; Hydro; Omalco; Define; Schuco; Kawneer; Hardima; Everite; Sigma; Jyothi
11	General architectural door and window hardware	Dorma/dormakaba; Kich; Hafele; Ozone; GEZE; Dorset
12	Hydraulic door closers and floor springs	Dorma/dormakaba; Kich; Dorset; Hafele
13	Locks, latches and cylinders	Dorset; Kich; Dorma/dormakaba; Hafele
14	Panic exit devices / fire-door hardware	Dorma/dormakaba; Ingersoll Rand; GEZE; Dorset; D.P. Garg; Backers FS
15	Stainless-steel fasteners and screws	Kundan; Pooja; Atul; Alloy; GKW; Nettlefold

IV) FLOORING, CEILINGS, ROOFING AND INSULATION

S.N.	Material / Product	Approved Makes / Requirement
1	Ceramic, glazed and vitrified tiles	Asian Granito (AGL); NITCO; RAK; Restile; Kajaria; Somany; H&R Johnson; Orientbell; Varmora; Oasis; Naveen/Murudeshwar; Anuj/Aravind Ceramic; Asttra; Vitero/Aparna
2	Cement concrete / terrazzo tiles	NITCO; Poddar; Eurocon; Dazzle; Ultra; Anuj; Asttra; NTC; Hindustan Tiles

S.N.	Material / Product	Approved Makes / Requirement
3	Interlocking concrete pavers / kerbs / tactile tiles	Dazzle; Ultra; Shree Bharat; Hindustan Tiles; Vyara; Basant Betons; Asttra; NITCO (Rockard); Bharat (Nilsan); Regency
4	Homogeneous PVC / vinyl flooring	LG Hausys; Gerflor; Armstrong
5	Linoleum / rubber flooring	Armstrong; Forbo; Gerflor
6	Engineered wood / laminate flooring	Armstrong; Werner; Pergo; Mikasa; New Wood
7	Carpet tiles, where specified	TOLI; Hollitex; Standard Carpets
8	Raised access flooring	Hewetson; Unifloor; Unitile; Kebao; Access Floor System; Pinnacle
9	Indoor/outdoor sports flooring, where specified	Armstrong; LG Hausys; Wonderfloor/RMG Polyvinyl; Forbo; Gerflor
10	Gypsum plasterboards and drywall systems	Saint-Gobain Gyproc; Lafarge; USG Boral; Armstrong
11	Fibre-cement / calcium-silicate boards	HIL (Aerocon/Charminar Fortune)
12	Mineral-fibre / glass-wool acoustic ceiling tiles	Aerolite; Anutone; Armstrong; Ramco; Knauf; Himalayan Acoustics; Saint-Gobain Gyproc; Grid Square; USG Boral; Hunter Douglas
13	Metal ceiling systems	Armstrong; Hunter Douglas; Grid Square; Aerolite; Anutone
14	GI ceiling/partition suspension and framing system	Armstrong; Gypframe/British Gypsum; Knauf; Saint-Gobain Gyproc; Aerolite; Grid Square; Hunter Douglas
15	Rock-wool / glass-wool insulation	ROCKWOOL India; U.P. Twiga; Lloyd Insulation; Saint-Gobain Gyproc; Himalayan Acoustics; Knauf; Anutone
16	Closed-cell elastomeric/nitrile insulation	Armacell; K-Flex; Aeroflex; Supreme
17	PUF/PIR insulated sandwich panels	Lloyd Insulation; Jindal Mectec
18	Multiwall/polycarbonate roofing and cladding	Danpalon; Alcox; Polygal; MG Polyplast; GE Lexan
19	Pre-painted GI/GL roofing and cladding sheets	Lloyd Metal Craft; Tata BlueScope; Bhushan Steel; JSW; Essar

V) PAINTS AND PROTECTIVE COATINGS

S.N.	Material / Product	Approved Makes / Requirement
1	Interior/exterior decorative paints, primers, enamels and wood finishes	Asian Paints; Dulux/AkzoNobel; Kansai Nerolac; Berger; Nippon; Surfa Coats; Snowcem; Shalimar
2	Cement-based wall putty	JK Wall Putty; Birla White; Asian Paints; NCL Altek; HIL; Berger; Ardex Endura; Ferrous Crete
3	Textured / elastomeric exterior coating	Asian Paints; Spectrum; Heritage; Kansai Nerolac; Berger; Nippon; Surfa Coats; Snowcem; SKK; AkzoNobel
4	Epoxy / polyurethane protective coating for steel and concrete	Asian Paints; Berger; Shalimar; STP; Ardex Endura; Mapei; Kansai Nerolac; Sunanda; BASF; Fosroc; MYK Laticrete; Ferrous Crete; SKK; AkzoNobel; MRF
5	Intumescent / fire-retardant coating, where specified	Jotun; Hilti; AkzoNobel; Asian Paints; STP
6	Industrial resinous floor coating	BASF; Fosroc; MYK Laticrete; Ardex Endura; Mapei; Asian Paints; Ferrous Crete; Sunanda

VI) SANITARY, WATER SUPPLY AND DRAINAGE

S.N.	Material / Product	Approved Makes / Requirement
1	Vitreous-china sanitary ware	Roca; Kohler; Jaquar
2	CP brass faucets and bathroom fittings	Roca; Kohler; Jaquar
3	Concealed cisterns / flush valves / carriers	Roca; Kohler; Jaquar
4	Stainless-steel kitchen sinks	Johnson; Diamond; Jindal; Kingston; Nirali; Hindware; Silver Shine; Prayag; Navkar; Futura; Cera; Neelkanth; Jayna; Franke
5	uPVC/SWR soil, waste and rainwater pipes and fittings	Supreme; Astral; Finolex; Ajay; Vectus; Prince; Prayag; Sentini; HIL; Ashirvad; Truflo
6	CPVC hot and cold water pipes and fittings	Supreme; Finolex; Astral; Prince; Ajay; Prayag; Vectus; Truflo; Anil; HIL; Ashirvad; Sentini
7	PPR/PPR-C pipes and fittings	Supreme; Astral; Ashirvad; Prince; APL Apollo

S.N.	Material / Product	Approved Makes / Requirement
8	HDPE pipes and fittings	Finolex; Astral; Prince; HIL; Ashirvad; DEC
9	GI pipes	Tata; Zenith; Jindal Pipes; R.K. Steel; Hissar; APL Apollo
10	DI pressure pipes and fittings	Electrosteel; Jindal SAW; Kesoram; Lanco
11	Bronze/gunmetal water-supply valves	Zoloto; Leader; Sant; Audco
12	CI/DI sluice, butterfly and non-return valves	Kirloskar; RBM/AFS; Kartar; IVS; Zoloto; Leader; Burn; Fluidtech
13	Rotational-moulded water-storage tanks	Sintex; Vectus; Supreme
14	Stainless-steel floor drains / linear drainage channels	ACO; Viega; Jaquar; Zurn; Hindware
15	SFRC/ductile-iron/composite manhole covers and gratings	Neco; BIC; DEC; HEPCO; KK; Advent; Nu-TEC; Kutty; Jagannath; Kapilansh; SKF/Singhal
16	RCC pipes	Indian Hume Pipe; Jain & Co.; Lakshmi Sood & Sood ; Vikas spun pipe works
17	Plastic Encapsulated Foot Rest	KK Manhole and gratings Co Pvt Ltd., KGM Exports, Accurate Buildcon compnay.

VII) ALUMINIUM, GLAZING AND FAÇADE

S.N.	Material / Product	Approved Makes / Requirement
1	Aluminium extrusions	Hindalco; Jindal Aluminium; Bhoruka; Indal; Padmavathi Extrusion; Hydro; Omalco
2	Float, toughened, laminated and insulated glass	Saint-Gobain; Asahi; Pilkington; Modiguard/Guardian; FUSO; Gurind; Impact Safety; Glaverbel
3	Fire-rated glass and framing system	Contraflam/Pyroswiss by Saint-Gobain; PYRAN by SCHOTT; Pilkington; Promat
4	Aluminium composite panels	Alucobond; Eurobond; Aludecor; Reynobond; Alpolic; Alstrong; Hynadecor; Alstone
5	Spider/patch fittings and glass-door hardware	Dorma/dormakaba; Sevox; Kich; Ozone; Hafele
6	EPDM/TPE glazing gaskets	Anand; Roop; Bohra; Hanu; Amee Rubber; Sree Gaurav

S.N.	Material / Product	Approved Makes / Requirement
7	Masking/protection tapes for aluminium and glass	3M; Sun; Wonder Polymer; Roop

VIII) EXTERNAL WORKS AND OPTIONAL SPECIALISED ITEMS

S.N.	Material / Product	Approved Makes / Requirement
1	Thermoplastic / cold-plastic road-marking material	Geveko; SWARCO; Asian Paints PPG; Berger; 3M
2	Reflective road studs / delineators	3M; Avery Dennison; Nikkalite
3	Geotextiles / geogrids / geocomposites	TechFab India; Garware Technical Fibres; Strata Geosystems; Maccaferri
4	Grass pavers / drainage cells	Unistone; Ultra
5	GRC/precast architectural elements	Terrafirma; Ecovision; Mahesh GRC
6	WPC door frames, shutters and boards	Alstone; Ecoste; Echon; Rajasree; Qute; Prominance; Magma (SMP Impex)

PART-C

SCHEDULE OF QUANTITIES FOR CIVIL WORKS

S. No	Description	Qty	Unit	Rate	Amount
1	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth upto 50 m and lift upto 1.5 m, as directed by Engineer-in-Charge:				
1.1	All kinds of soil	500.00	sqm	145.30	72,648.00
2	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and for all lift, as directed by Engineer-in-charge.				
2.1	All kinds of soil	2,620.00	cum	198.61	520,368.00
3	Excavating trenches by mechanical / manual means of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, for all depth, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus				

	excavated soil as directed, within a lead of 50 m :				
3.1	All kinds of soil				
3.1.1	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	4,060.00	M	394.04	1,599,795.00
4	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lift	1,990.00	Cum	219.31	436,435.00
5	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	135.00	Cum	2,376.37	320,810.00
6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
6.1	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)	80.00	cum	7,293.99	583,519.00
7	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :				

7.1	1:1.5:3 (1 cement : 1.5 coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources)	55.00	Cum	10,121.74	556,696.00
8	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.				
8.1	Thermo-Mechanically Treated bars of grade Fe-500D or more.	3,300.00	Kg	120.68	398,240.00
9	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) upto plinth level with :				
9.1	Cement mortar 1:6 (1 cement : 6 coarse sand).	2.00	Cum	8,180.92	16,362.00
10	Random rubble masonry with hard stone in superstructure above plinth level and upto floor five level, including leveling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at window sills, ceiling level and the like.				
10.1	Cement mortar 1:6 (1 cement : 6 coarse sand).	2.00	cum	10,378.76	20,758.00
11	15 mm cement plaster on				

	rough side of single or half brick wall of mix:				
11.1	1:4 (1 cement: 4 coarse sand)	570.00	Sqm	460.73	262,615.00
12	Finishing walls with Acrylic Smooth exterior paint of required shade :				
12.1	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm)	100.00	sqm	179.70	17,970.00
13	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.				
13.1	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	50.00	cum	2,723.80	136,190.00
13.2	Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)	34.00	cum	1,682.45	57,203.00
14	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	98.00	cum	3,973.67	389,420.00
15	Demolishing stone rubble masonry manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as				

	per direction of Engineer-in-charge :				
15.1	In cement mortar	4.00	cum	2,751.44	11,006.00
16	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	200.00	cum	295.35	59,069.00
17	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5 mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured to calculate volume for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	12.00	cum	11,321.09	135,853.00
18	Construction of granular sub-base by providing close graded Material conforming				

	to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.				
18.1	With material conforming to Grade-II (size range 53 mm to 0.075 mm) having CBR Value-25	176.00	cum	3,272.76	576,006.00
19	Taking out existing kerb stones of all types from footpath/ central verge, including removal of mortar etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.	70.00	M	44.03	3,082.00
20	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick				

	compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.				
20.1	80 mm thick C.C. paver block of M-35 grade with approved colour design and pattern.	1,500.00	Sqm	1,221.33	1,832,001.00
21	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:				
21.1	150 x 100 mm size P type.				
21.2	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	20.00	each	3,059.43	61,189.00
22	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone				

	aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, pipe and manhole joints making with 100 mm allround cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) complete as per standard design and as per the Direction of Engineer-in-charge.				
22.1	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :				
22.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	90.00	each	14,289.61	1,286,065.00
23	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal				

	diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) :				
23.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	134.00	each	29,546.43	3,959,222.00
24	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (heavy duty) 560 mm internal diameter, total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100 kg) :				
24.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	4.00	each	36,766.29	147,065.00
25	Extra for depth for manholes :				
25.1	Size 90x80 cm				
25.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	23.00	M	9,875.18	227,129.00
25.2	Size 120x90 cm				
25.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	34.00	M	11,844.65	402,718.00
26	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand),				

	inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, pipe and manhole joints making with 100 mm allround cement concrete 1:2:4 (1 cement : 2 coarse sand:4 graded stone aggregate 20 mm nominal size) complete as per standard design and as per the Direction of Engineer-in-charge				
26.1	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :				

26.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	16.00	each	14,238.64	227,818.00
27	Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m				
27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	8.00	M	8,494.84	67,959.00
28	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, pipe and manhole joints making with 100 mm allround cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) complete as per standard design and as per the Direction of Engineer -in-charge.				

28.1	1.68 m deep with SFRC Cover and frame (heavy duty HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :				
28.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	8.00	each	27,641.14	221,129.00
29	Extra depth for circular type manhole 1.22 m internal dia (at bottom) beyond 1.68 m to 2.29 m :				
29.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	3.00	M	11,034.47	33,103.00
30	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm	722.00	each	619.56	447,324.00

	tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.				
31	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design.				
31.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	1.00	each	30,057.12	30,057.00
32	Constructing soak pit 1.20x1.20x1.20 m filled with brickbats including S.W. drain pipe 100 mm diameter and 1.20 m long complete as per standard design.	1.00	each	3,233.88	3,234.00
33	Providing and fixing Type B pipes of approved brand and manufacturer including jointing solvent cement i)				

	Single socketed pipes etc., all complete as per direction of Engineer-in-charge.				
33.1	UPVC SWR pipes confirming to IS: 13592				
33.1.1	75 mm dia	40.00	M	232.00	9,280.00
33.1.2	110 mm dia	320.00	M	402.20	128,704.00
34	Providing and fixing on wall face un-plasticised - PVC moulded fittings accessories for unplasticised Rigid PVC drainage pipes Type B jointing with solvent cement etc., all complete as per the direction of Engineer-in-charge.				
34.1	UPVC- SWR fittings as per IS:14735				
34.1.1	Door bend 87.5" with door				
34.1.1.1	75mm dia	20.00	Each	119.80	2,396.00
34.1.1.2	110mm dia	20.00	Each	186.25	3,725.00
34.1.2	Plain bend 87.5"				
34.1.2.1	75mm dia	40.00	Each	98.30	3,932.00
34.1.2.2	110mm dia	40.00	Each	159.55	6,382.00
34.1.3	Cowl				
34.1.3.1	110mm dia	50.00	Each	54.80	2,740.00
34.1.4	Coupler				
34.1.4.1	110mm dia	30.00	Each	73.55	2,207.00
35	Providing and laying Non Pressure NP-3 class (Medium duty) R.C.C. pipes including spigot & socket jointed with stiff mixture				

	of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete				
35.1	150 mm dia. R.C.C. pipe	1,200.00	M	888.40	1,066,080.00
36	Providing and laying Non Pressure NP-3 class (Medium duty) R.C.C. pipes including spigot & socket jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete				
36.1	300 mm dia. R.C.C. pipe	2,860.00	M	1,533.10	4,384,666.00
	TOTAL				20,730,170.00

Executive Engineer (Trichy) - I
CPWD, Trichy - 620 015

FINANCIAL BID

SCHEDULE OF QUANTITIES					
FINANCIAL BID- PERCENTAGE RATE TENDER					
NIT No. 26/EE/TRICHY-I/07/NIT/SE (TRICHY)/CPWD/2026-27					
Name of Work: Replacement of outlived Sewer line with NP3 pipes, Construction of new Manholes including Demolishing cover slab of existing manholes in Main line & Branch sewer line for Ordnance Factory at Trichy.					
Name of the Contractor					
Sl. No	Name of component	Estimated cost (Rs.)	Percentage Above or Below the Estimated cost	Percentage in Figures	Total Cost
1	2	3	4	5	6
1	For items as per schedule of quantities for Civil works	2,07,30,170/-			
	Grand Total	2,07,30,170/-			
IMPORTANT NOTE:					
1	The Column No. 4 is mandatory and is to be filled by the bidders. If this column is left blank, the bid becomes invalid.				
2	The amount in figures in Column No. 6 shall appear automatically corresponding to the percentage quoted in Column No. 5.				
3	The bidder needs to quote the percentage only above or below or at par ECPT to cover the rate of all the items under the respective package.				
4	The percentage shall be quoted (written) upto 2 (two) places of decimal only.				
5	If the percentage selection in Column No. 4 is "At par", by default the percentage will be considered as "Zero" only.				
6	The amount for the payment of each item will be worked out as quantity executed & measured for that item multiplied by estimated rate of that particular item Plus or Minus tender percentage accepted for corresponding package.				
Signature of the Contractor		Executive Engineer(Trichy-I) CPWD, NIT Campus, Trichy – 620 015.			