

METROPOLITAN TRANSPORT CORPORATION LTD: CHENNAI-2.

TENDER NOTICE.

Sealed tenders are invited on behalf of Metropolitan Transport Corporation (Chennai) Limited from the every Tenderers who have registered their names in the Civil Division of M.T.C., P.W.D., C.P.W.D., H&R.W.D., T.N.H.B., T.N.S.C.B., T.N.E.B., Highways, Greater Chennai Corporation, eligible State and Central Government undertaking etc., for the following work noted below.

S. No.	Name of Work.	EMD	Form of Contract	Cost of Tender Documents/ Class.	Period of completion.
1	Construction of new additional bus bays with shelter, modern toilet complex and provision of additional LED light facilities at J.J.Nagar West Bus Terminus.	Rs.77,320	LS	Rs.15,000+ GST Class IV & above (PWD: G.O.195& 37). Class I - (PWD: G.O.222)	9months

Particulars of tender documents and Plans can be had from the Assistant Manager (Cash), M.T.C. (Chennai) Ltd., Pallavan Salai, Chennai-2 on requisition in writing on all working days from 16.03.2023 to 29.03.2023 during office hours from 10.00 A.M. to 05.00 P.M. by remitting the cost in the form of Demand Draft drawn infavour of M.T.C. (Chennai) Ltd., Chennai -2, obtained from any Nationalised bank.

The Tender must be the registered contractor in the Public Works Department and Government Department, Income Tax Clearance Certificate and the previous experience certificate not less than the above value of work in single civil work should be enclosed along with the Tender documents. Renewal Certificate for the current year should also be enclosed along with the Tender documents. The Tender documents along with all the above mentioned documents only, the Tender will be accepted.

The E.M.D. noted above should be enclosed with the Tender Schedule in the form of Demand Draft obtained from any Nationalized bank, drawn in favour of the M.T.C.(Chennai) Ltd.,

The filled in Tender Schedules should be put in the Tender Box available at Deputy Manager (Civil) office, M.T.C. (Chennai) Limited, Head Quarters, Pallavan Salai, Chennai-2 upto 03.00 P.M. on 30.03.2023 and will be opened on the same day at 3.15 P.M. by the Tender Committee in the presence of attending Tenderers. On production of the representation letter from the Tenderer or receipt received for the payment of Tender documents are only allowed to participate in the Tender.

Metropolitan Transport Corporation reserves the right to accept or reject Tender without assigning any reason thereof.

Tender forms can be downloaded at free of cost from "<http://www.tenders.tn.gov.in>"

**Sd/--
MANAGING DIRECTOR.**

**METROPOLITAN TRANSPORT CORPORATION LIMITED:
PALLAVAN HOUSE: CHENNAI-600 002.**

NAME OF WORK : Construction of new additional bus bays with shelter,
modern toilet complex and provision of additional
LED light facilities at J.J.Nagar West Bus Terminus

TENDER DATE : 30.03.2023

FORM OF CONTRACT : LS

TOTAL NO.OF.SHEETS IN: 37 papers
THE SCHEDULE.

TOTAL NO.OF.ITEMS : 31 (Thirty one)

E.M.D.AMOUNT : Rs.77,320/-

NAME OF BANK & BRANCH :

D.D.NO. & DATE :

NO.OF.CORRECTIONS. :

DATE OF OPENING : 30.03.2023.

ISSUED TO :

TENDER COMMITTEE :

A.M.(C)/D.M.(Civil)/ D.M.(M) /G.M.(TECH.)/ S.D.M.(Accts.)

SCHEDULE 'A'

SCHEDULE OF RATES AND APPROXIMATE QUANTITIES

- a) The Quantities given here are those upon which the lumpsum tender cost of the work is based but they are subject to alternations, omissions, deductions or addition as provided for in the conditions of this contract and do not necessarily show the actual quantities of work to be done. The units rates noted below are those governing payment for extras or deductions or omissions according to the condition of the contract as set forth in the preliminary specification of the TAMIL NADU BUILDING PRACTICE and other conditions or specifications of the contract.
- b) It is to expressly understood that the measured work is to be taken not (Not withstanding) any custom or practice the contrary according to the actual quantities when in place and finished according to the drawings or as may be ordered from time to time by DEPUTY MANAGER (CIVIL). And the cost calculated by measurement or weight at the respective prices, without any additional change for any necessary or contingent works connected therewith. The rates quoted are for works in site and complete in every respect.

Item	Probable Quantity	Description of Work	TNBP No	NBC No	Rate In words & figures	Unit	Amount in figures
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vide separate sheet enclosed –

Note: The second sub division of this column(i.e.,column 3) is for entering description in words such as numbers, Cubic Metre, Running metre, Square metre Kg.etc., Issued to M/s.Thiru,

Pages and
Contractor

with plans

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation
Chennai - 2.

LIST OF DRAWINGS

Note: All drawings to be signed by the contractor as well as the officer entering into contract

Supplemental list
As entered to in the specification
(including the preliminary specification of the TAMILNADU BUILDING PRACTICE)

S.No.	Drawing No.	Description	S.No.	Drawing No.	Description	Date on which the drawing was completed
1	2	3	1	2	3	

Contractor

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Metropolitan Transport Corporation
Chennai - 2.

**METROPOLITAN TRANSPORT CORPORATION (CHENNAI) LTD
OFFICE OF THE DEPUTY MANGER (CIVIL), CIVIL DIVISION,
PALLAVAN HOUSE, CHENNAI – 2.**

Name of Work	Construction of new additional bus bays with shelter, modern toilet complex and provision of additional LED light facilities at J.J.Nagar West Bus Terminus.
Last date of receipt of tender	30.03.2023
E.M.D. to be remitted	Rs.77,320/-
Mode of E.M.D. to be remitted	E.M.D will be accepted in the shape of Deposit at call receipt, Demand Draft of the nationalized and scheduled Banks drawn in the name of Metropolitan Transport Corporation (Chennai) Ltd. No other mode of payment will be accepted.

1. Tender not submitted in sealed cover will be summarily rejected.
2. The rate in the words and figure for each item of schedule should invariable be furnished by the tender without fail in appropriate columns, corrections, scribbling, overwriting and erasing on (should be avoided as far as possible) should be attested by the tenderer.
3. The total value of each item of work should be worked out and entered in the amount column. Proper care must be taken in working out the value of each item of work taking in to account the unit for which the rate is quoted and the quantity of work to be done under the item.
4. The total of each page should be noted at the end of each page and carried over to next page. The grand total value of the tender should be worked out and furnished at the end both in words and figures.

Contractor:

**GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation (Chennai) Ltd.
Chennai-2**

ANNEXURE
PARTICULARS TO BE FURNISHED BY THE TENDERER

1	Name of the Tenderer and address	:
2	Name of Work	:
3	Date of Tender	:
4	Total value of tender	:
5	Details about EMD enclosed for this tender & its validity	:
6	Registered class of the Tenderer in PWD with monetary limit	:
7	Recent works executed (details about name and place of work, value of work etc. should be furnished)	:
8	Works under execution (details about name and place of work, value of work etc. should be furnished)	:
9	Command of Labour in brief	:
10	Turnover of previous year (Particulars for period of three consecutive years to be furnished)	:
11	Whether Income Tax clearance certificate is enclosed if not when it will be produced	:
12	i. GST registration. No.	:
	ii. Whether GST Verification certificate is enclosed, if not when it will be produced	:
13	In case of registered co-operative societies they should furnish name for the nominee with their credentials details at the time of tender itself. They should also certify that the nominee of the society is not a registered contractor in the Department	:
14	Technical Assistant details	
	1. Name	:
	Qualification Certificate	:
	Experience Certificate	:

	2. Name Qualification Certificate Experience Certificate	:
	OR	
	Name	:
	If Retired civil Engineer Designation And date of retirement (copy may be enclosed)	:
15	If any other details	:

Note: The consent letter from the Technical Assistant proposed to be employed should be furnished and enclosed with the tender

Contractor:

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation (Chennai) Ltd.
Chennai-2

DECLARATION SHOULD BE FURNISHED BY UNEMPLOYED ENGINEER

1	Name	:
2	Address	:
3	Age	:
4	Native	:
5	District	:
6	Qualification	:
7	Year of Passing	:
8	No. of years of employment	:
9	Name of the Division in which Registered as an unemployment Engineer	:
10	Date of Registration	:
11	Class of contract Monetary limit	:
12	Previous experience in year	:

a. Irrigation b. Road work c. Buildings d. Bridges e. Other

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Details with regard to name of work, etc. may be furnished in a separate sheet:

Contracts	Name of Work	Value of Work	Period of Contract	Nomination or contract basis
1	2	3	4	5

13	Annual turnover for the three years	:	
14	Solvency / immovable / cash	:	
15	Tools and plant owned	:	
16	Was there any default in fulfilling terms of contract	:	
17	Special remarks if any	:	

Station:

Date :

Signature and name of the
Unemployed Engineer.

Contractor:

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Metropolitan Transport Corporation (Chennai)Ltd
Chennai – 2.

FOR SPECIAL ATTENTION OF THE CONTRACTOR

1. Proof of registration in PWD, as a contractor shall be attached with the tender.
2. Current Income Tax clearance certificates shall be enclosed with the tender.
3. EMD will be received in the shape as detailed in Sl.No.4 of tender Notice.
4. Security should be in the form of National Savings Certificates / Deposits / Accounts of POSTAL DEPT PLEDGED IN THE NAME OF MTC - CHENNAI – 2. CONCERNED, IRREVOCABLE BANK GUARANTEE as per the form prescribed by the Dept., only. No other form of EMD and security deposit will be accepted vide G.O.No.227 dt.13.04.1982 and G.O.M.S.No.283 Public Works(G2) Dept. dt.21.05.1999
5. The following particulars shall also be furnished by the contractor with the value.
 - a) List of details of works executed by the contractor with the value.
 - b) Annual turnover of the contractor for the last three – year, necessary certificates to the effect issued by the respective Chartered Accountant shall be attached
6. The lower / lowest tenderer when informed that his tender is under consideration shall have to furnish PERT chart in the proper form within a week from the date of receipt of letter calling for PERT chart. The pert chart should confirm departmental time schedule for the completion of the work furnished in the tender notice. If the pert chart is not received within a week from the date of receipt of communication, his tender will not be considered. **The work should be completed as per PERT Chart, otherwise the Penalty will be enforced by the GENERAL MANAGER (TECHNICAL) based on the Agreement value.**
7. The tender document will be issued only to the contractors who have registered their names as contractors in PWD in the appropriate class.

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GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation
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SPECIAL INSTRUCTIONS TO THE TENDERERS:

1. The tenderer should carefully go through the schedules and quote their rates for all items.
2. The rates should be filled in neatly in figures and words and taking into account the metric unit specified in the tender, Scribbling, over writing and erasing should be avoided as far as possible.
3. The amount of each item of work should be worked out and furnished. Proper care must be taken in working out the amount of each item of work taking into account unit for which, the rate is quoted and the quantity of work to be done under the item.
4. The total of each page should be noted at the end of each page and carried over to every page and the grand total value of work should be worked out and shown at the end.
5. The tender should be submitted along with a covering letter giving full details as stated in the tender notice
 - i) Details of the earnest money deposit as per details in item 4 of tender notice.
 - ii) In case of tenderers who are eligible for concessional Earnest Money Deposit and accordingly they should furnish the reference number and date in which the concession was granted them to be along with the tender for ready reference specified and if possible a copy of the aforesaid reference may be enclosed.
 - iii) Income tax clearance certificate for the current year should be submitted along with the tender.
 - iv) Details of previous work done by the tenderer covering the cost of work the agreement amount and date, the Dept. in which the work was carried out etc. so as to assess the previous experience of the tender, and also make an easy reference to their record of work. Year wise details should be furnished so as to see that these tenderes have minimum experience of major buildings.
 - v) List of various machinery and other equipments at the tenderers disposal for use in the execution of work.
 - vi) The tender forms should be filled in while submitting the tender. The tenders submitted without filling up the tender form are liable to be rejected.
 - vii) The tenders must be submitted in a full scape cover there by duly signing all the conditions; plans and schedules issued as tender documents.

Contractor:

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation
Chennai – 2.

1. Sealed tenders will be received by the Deputy Manager (Civil), MTC, Chennai – 2 at his office upto 3.00 P.M. on 30.03.2023 for the work of Construction of new additional bus bays with shelter, modern toilet complex and provision of additional LED light facilities at J.J.Nagar West Bus Terminus.
- 1-1 The tender should be in the prescribed form obtainable from the office of the Deputy Manager (Civil). The tenders will be opened by the Deputy Manager (Civil), MTC Ltd at the place and on the date above mentioned.
- 1-2 The tenderers or their agents are expected to be present at the time of opening of Tenders. The tender receiving officer will on opening each tender, prepare a statement of the attested and unattested corrections there in and hand it over to the tenderer concerned and initial all such corrections in the presence of the tenderer, If any of the tenderers on their against find it inconvenient to be present at the time then in such a case, the tender receiving officer will in opening the tender of the absentee tenderes make out a statement of the unattested corrections and communicate it to him. The absentee tenderer shall then accept the statement of the corrections without any questions whatsoever.
2. Tenders may be submitted in sealed covers and should be addressed to the Deputy Manager (Civil), MTC Ltd, Chennai 600 002. The name of the tenderer with their address and the name of the work being noted in the cover.
- 2-1 If the tender is made by an individual, it shall be signed with his full name and his address shall be given. If it is made by a firm, it shall be signed with the co-partnership name by a member of the firm who shall also sign his own name, and the name and address of each member of the firm shall be given. If the tender is made by a corporation, it shall be signed by a duly authorized officer who shall produce with his tender, satisfactory evidence of his authorization. Such tendering corporation may be required, before the contract is executed, to furnish evidence of its corporate existence.
- 3 Each tenderer must also send a certificate of income tax verification form the appropriate income tax authority in the form prescribed therefore. The certificate will be valid for one year from the date of issue for all tenders submitted during the period.

In the case of proprietary or partnership firm, it will be necessary to produce the certificate afore mentioned for the proprietors and for each of the partner as the case may be.

Contractor:

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Metropolitan Transport Corporation (Chennai)Ltd
Chennai – 2.

3-2. If the tenderer is registered PWD contractor and if a certificate for the current year had been already produced by him during the calendar year in which the tender is made, it will be sufficient if particulars regarding the previous occasion on which the said certificate was produced are given.

3-3. All tenders received without a certificate as afore mentioned will be summarily rejected.

4. Each tenderer must pay as earnest money deposit a sum of Rs.77,320/- in the shape of D.D from Nationalised Bank infavour of the Metropolitan Transport Corporation Limited, Chennai – 2. The earnest money will be refunded to the unsuccessful tenderer on application after intimation is sent on rejection of the tender or at the expiration of two months from the date of tender or finalizing of the tender whichever is earlier. However the earnest money for the first three lowest tenderers will be retained till the final decision is taken on tender. This refund will be authorized by the DEPUTY MANAGER (CIVIL) by suitable endorsement. However refund of the first three lowest tender will be considered only by the accepting authority. If any additional EMD is required after tender, should be paid before acceptance of agreement.

4-1. The EMD will also be accepted in the shape of deposit at call receipts and demand draft of the Nationalised and Scheduled Banks. The demand draft of the Nationalised and Scheduled Banks furnished towards earnest money deposit should be drawn infavour of the Metropolitan Transport Corporation.

The earnest money will be retained in the case of successful tenderer and will not carry any interest. It will be dealt with as provided in the tender.

5(i). The tender will remain valid for a period of three months from the last date of receipt of tender. The validity period can be extended further if the contractor gives his consent in writing specifying in the period of extension.

Contractor:

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation (Chennai) Ltd.
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(ii). Tenderer whose tender is under consideration shall attend the Deputy Manager officer before the end of the period specified by written intimation to him. If the tenderer fails to attend the office before the end of the specified period his tender will not be considered. He shall forth with upon intimation being given to him of acceptance of his tender by the officer, duly authorized in this behalf under article 299 constitution of the hereinafter called the tender accepting authority, make security deposit of 2% of the value of contract, in one of the form prescribed by department (ie) by taking into account of the amount of Earnest Money Deposit and already deposited with the tender it would be sufficient to pay the balance amount to make upto 2% of the value of contract for the purpose of security deposit. The earnest money has to be converted and pledged scripts / deposits / account of postal department or in the shape of Indira Vikas Patras to the Metropolitan Transport Corporation concerned in the shape of National Saving or irrevocable Bank guarantee as per the form prescribed by the Dept, by the successful tenderer on intimation of acceptance of tender. It would be sufficient to pay the balance amount to make up the 2% of the value of contract for the purpose of security deposit, which has to be remitted only on the shape of NSC / deposits / accounts of postal dept. or Indra Vikas Patras or Irrecoverable Bank guarantee as per the form prescribed. The balance security deposit of 1% than the 1% of EMD at the time of tender, will be recovered in three equal installments from the first three consecutive bills of the contractor and which have to be converted as National Savings scripts / deposit accounts of postal account and pledged to the Deputy Manager concerned. The Security deposit together with earnest money deposit and the deductions made at 5% of the value of each bill, towards with held amount vide clause 64(i) of General condition to contract out of which 2 ½% deducted withheld amount will be released in final bill of the work, such deposit shall not bear any interest.

5(iii). On receipt of written communication of acceptance of tender, if the tenderer fails to pay the requisite security deposit within the period specified in the written communication or back out from the tender, or withdraw his tender, the EMD shall be forfeited and credit to the Metropolitan Transport Corporation account.

5(iv). If the contractor fails to carryout the contract after paying the requisite security deposit which shall be forfeited, then he will be liable for the excess expenditure if any incurred to complete the work, plus 10% overheads towards penalty and administrative charges as contemplated in the general conditions of contract.

Contractor:

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation (Chennai) Ltd.
Chennai-2

5(v). It shall be expressly understood by the tenderer, that on receipt of written communication of acceptance of tender from the accepting authority by the tender there emerges a valid contract between the Metropolitan Transport Corporation and the tenderer for execution of the work without any separate written agreement. Hence for this purpose the tender documents in tender documents (i.e) tender notice, tender offered by contractor, general condition to the contractor, special condition to the contract, negotiation correspondence written communication of acceptance of tender etc. shall constitute a valid contract and that will be a foundation of the rights of both parties to the contract, provided that it shall be open to the accepting authority to insist execution of any written agreement by the tenderer, if administratively considered necessary or expedient.

6.The work in Metropolitan Transport Corporation executed by the contractor under contract shall be maintained at the contractor's risk until the work is taken over by the Deputy Manager (Civil). The contractor shall take risk insurance at his own cost against fire flood, volcanic eruption, earth quake other conclusion of nature and all other natural calamities risk arising out of act of God, during such period and that the government shall not be liable for any loss or damage occasioned by or arising out of acts of foreign enemies, invasions, hosplities or war like operation (before or after declaration of war) like ballion Military or unscurbed power.

7.The tenderer shall examine clearly the Tamil Nadu Buildings practice and also general condition of the contract contain therein and sign the divisional office copy of the Tamil Nadu Building practice and its addenda volume in token of such study before submitting his tender unit rate which shall be for finished work in site. He shall also carefully study the drawings and additional specification and all the documents connected with the contract. The Tamilnadu buildings practice and other documents with the contract such as specifications, plan descriptive specification sheet regarding materials, etc, can be seen at any time during office hours from 10.00 am to 05.00 pm in the office of Deputy Manager (Civil), Chennai – 2. A copy of the set of contract documents can also be had on payment of Rs.15,000/-+ GST for each set.

8.The written agreement to be entered in to between the contractors and the MTC shall be the foundation of the rights of both the parties and the contract shall not be deemed to be complete until the agreement has first been signed by the contractor and then by the officer authorized to enter into contract on behalf of Metropolitan Transport Corporation.

Contractor:

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation (Chennai) Ltd.
Chennai-2

8(A) 2 ½ of the total value of the work will be retained in the final bill of the work for a period of one year recovered from the date of completion of the work in order to enable the department to watch the effect of all sessions of the work. The contractor should furnish an indemnity bond for further period of four years. If any defects are noticed in the above said period the defects should be rectified by the contractor at his own cost as directed by the departmental officers and no extra payment will be made for the rectification such work.

REVENUE RECOVERY ACT

Whenever any amount has to be paid by the contractor in view of determination of the contract by virtue of clause 57(4) of Tamilnadu Building Practice (i.e) if any amount that may be due or may become due from the contractor under these provisions and the contractor is not responding to the demands for the payments of the said amount, then the government shall be entitled to recover the said amount under the provision of the Revenue Recovery act.

The Arbitrator for fulfilling the sureties set forth in the arbitration clause of the general conditions to the contract shall be.

- i. The Managing Director, Metropolitan Transport Corporation Limited, Chennai –2. incase of value of claim does not exceed Rs.50,000/-.
- ii. In case of the value of claim over Rs.50,000/- and above, the remedy will be through competent civil court only.

ADDITIONAL SPECIAL CONDITION:

For existing para 47-1 and 47 –2 of General conditions of contract of Tamil Nadu Buildings practice the following shall be substituted.

Clause 47(i) The work executed by the contractor (or) under those contract shall be maintained at the contractor's risk until the work is taken over by the DEPUTY MANAGER (CIVIL), the Metropolitan Transport Corporation shall not be liable to pay for any loss or damages occasioned by (or) arising out of fire, flood, volcanic, eruption, earthquake other convulsion of nature and all other natural calamities, risks arising out of acts of God during such period and that the option whether to take insurance coverage (or) not to cover such risks is left to the contractor.

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Chennai-2

The contractor shall not be liable for all or any loss of damages occasioned by or arising out of acts of foreign enemy, invasions or war like operation (before or after declaration of war) rebellion military or unscrubed power.

The tenderer's attention is directed to the requirements for materials under the clause "materials and workmanship" in the general connection of the contract, Materials confirming to the Indian Standard specification shall be used on the work and tenderer shall quote his rates accordingly.

9. Every tenderer is expected before quoting his rates to inspect the sites of the proposed work. He should also inspect the quarries and satisfy himself about the quality and availability of materials. The names of quarries, kilns, etc., where from certain materials is to be obtained will be given in the descriptive specification sheet. The best class of materials to be obtained from the quarries or other sources defined shall be used on the work. In every case, the materials must comply with the relevant standard specification samples of materials as called for in the standard specification or in this tender notice or as required by the DEPUTY MANAGER (CIVIL) in any case shall be submitted for the DEPUTY MANAGER (CIVIL) approval before the supply to the site of work is begun. If the contractor after examination of the source of materials defined in the descriptive specification sheet is of the opinion that materials complying with the standard specification sheet he shall be said clearly in his tender and state where from he is to obtain materials subject to the approval of the DEPUTY MANAGER (CIVIL).

All the rates quoted in the tender shall be inclusive of GST payable Under the Goods and Service Tax Act as amended from time to time and that the contractor is responsible to file the GST return and pay the amount that amended by the Commercial Tax Department. No request for payment of GST separately in addition to tendered rates due to any plea of subsequent levy increase in tax will be entertained. Vide also clause 38 (2) of General conditions to contract.

9.1 The Government will not however after acceptance of contract, rate pay any extra charges for lead for any other reason in case, the contractor is found later on to have misjudged the materials available. Attention of the contractor is directed to the General condition of the contract regarding payment of Seigmiorage, toll etc.

10. The tenderer's particular attention is drawn to the section and clauses in the general conditions to the contract dealing with

Contractor:

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation (Chennai) Ltd.
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1. Test inspection and rejection of defective materials on work.
 2. Carriage
 3. Construction plant.
 4. Water and lighting
 5. Cleaning up during progress and for delivery
 6. Accidents
 7. Delays
 8. Particulars of payment
11. The contractor should closely pursue all the specifications classes which given the rates which he is tendering.

11.i) A schedule of quantity accompanies this tender notice it shall be definitely understood that, the MTC Ltd does not accept and responsibility for the correctness or completeness of this schedule and that this schedule is liable to alternation by omissions, deductions or additions at the discretion of the D.M.(Civil), MTC Ltd. or as set forth in the conditions of contract The tenderer will however base his lumpsum tender on this schedule of quantities. In the case of percentage tender system for the works costing upto Rs.20.00 Lakhs, the tenderer should Note their tender percentage excess/Less (instead of quoting specific rate for each item in the schedule) for the works with reference to the total estimated value foot to tender. In the case of other works costing more than Rs.20.00 Lakhs he should quote rates for each item in the schedule and the rates should be in rupees and in sum of five paise. They should be written both in words and figures and the units in words. The tender should also show the total of each item and the grant total of the whole contract and quote in the tender a lumpsum for which he will undertake to do the whole work subject to the condition of contract such lumpsum agreeing with the total amount of schedule.A. This schedule accompanying the lumpsum tender shall be written legibly and free from erasures, over writing or conversions of figures. Correction where unavoidable should be made by crossing out, initialing dating and rewriting.

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12. The tenders offering a percentage deduction from or increase on the estimate amount (except in the case of tender. Called for specifically under the percentage rate tender system) and those not submitted in prescribed form or in due time will be rejected. Rates or lumpsum amounts for items not called for shall not be included in the tender. No alternations which is made by the tenderer in contract from the conditions of contract, the drawings, specifications or quantities accompanying the same will be recognised and, if any such alterations are made, the tender will be void.

13. The tenderer should work out his own rates without reference being made to PWD current schedule rates of MTC Estimates. However in case tenders called for under the percentage tender system, the tender should work out his own rate but quote his percentage rate above or below the total estimate cost of work of the department indicated in the tender schedule.

14. The price at which and the source from which the contractor shall obtain certain particular materials are given at the end of schedule accompanying the tender form. Tenderers must accept the material at these prices and shall quote their price for finished work accordingly. Notwithstanding any subsequent change in the market value for these materials the charge to the contractor will remain as originally entered in the written contract. No centage or incidental charges will be borne by MTC in connection with this supply/

15. The attention of the tenderer is directed to the contract requirements is to the time of beginning works the rates of progress and the dates for the completion of the whole work and its several parts. The following rates of progress and of proportionate value of work done from time to time as will be indicated by the DEPUTY MANAGER (CIVIL) certificates of the work done will be required. Date of commencement of this programme will be which the site (or) premises is handed over to the contractor.

Contractor

GENERAL MANAGER (TECHNICAL)
Metropolitan transport Corporation
Chennai -2

Period after date of Commencement (1)	Percentage of work to be complete based on on Contract lumpsum amount (2)
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I st Month	10%
IInd Month	20%
IIIrd Month	30%
IVth Month	40%
Vth Month	50%
VIth Month	60%
VIIth Month	70%
VIIIth Month	85%
IXth Month	100%

Note: The periods to be entered in column I for the purpose of defining the rates of progress may be fixed by the GENERAL MANAGER (TECHNICAL) or DEPUTY MANAGER (CIVIL) to suit each case.

16.No part of the contract shall be sub-let without written permission of the DEPUTY MANAGER (CIVIL) nor shall transfer be made by power of attorney, authorizing others to receive payment on the contractor's behalf.

17.If further necessary information is required, the DEPUTY MANAGER (CIVIL) of the Division will furnish such but it must be clearly understood that, tenders must be received in order and according to instructions.

18.The GENERAL MANAGER (TECHNICAL) or other sanctioning authority reserved the right to reject any tender or all the tenders without assigning any reason therefore.

Contractor

GENERAL MANAGER (TECHNICAL)
Metropolitan transport Corporation

Chennai -2

19. The tenderers who are themselves not professionally qualified shall undertake to employ qualified men at their cost to look after the work. The tenders should state in clear terms whether they are professionally qualified or has undertaken to employ technical men required by the department specified in the schedule below for the work. In case the selected tenderer is professionally qualified or has undertaken to employ technical men under him, he should see that one of the technically qualified men is always at the site of the work during working hours, personally checking all items of works and paying extra attention to such works as may demand special attention (e.g) Reinforcement concrete works etc.

Contractor

GENERAL MANAGER (TECHNICAL)
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EMPLOYEMENT OF TECHNICAL PROFESSIONAL

(Based on the value of contract)

1. Upto Rs. 5.00 Lakhs :
 1. One diploma holder in Civil Engineer
(or)
 2. Not less than one retired Junior Engineer
2. From Rs. 5 to 10 Lakhs :
 1. One B.E (Civil) or
 2. Equivalent degree holder or
 3. Not less than one retired Sub-Divisional officer Asst. Executive Engineer of ADE
 4. One diploma holder with three years experience
3. From Rs. 10 to 25 lakhs :
 1. One B.E Civil with 3 years experience plus one diploma holder in Civil Engineering (or)
 2. Equivalent degree holder with 3 years experience plus one diploma holder in civil Engineer.
 3. Not less than one retired sub-Divisional officer plus one diploma holder in Civil Engineering.
 4. Two diploma holders in Civil Engineering with 3 and 5 years experience respectively.
4. From Rs. 25 to 50 Lakhs: :
 1. One B.E Civil with 3 years experience
Plus two diploma holders in Civil Engineering (or)
 2. One B.E Civil with 3 years experience Plus two retired Junior Engineers (or).
 3. Equivalent degree holder with 3 years experience plus two diploma holders in Civil Engineering / two retired Junior Engineers.

4. One retired sub – Divisional officer / AE E/ADE plus two diploma holder in Civil Engineering.
 5. One retired Sub- Divisional Officer / Assistant Executive Engineer / ADE plus two retired Junior Engineers.
5. Above Rs. 50 Lakhs: :
- To be examined in individual cases on the nature of work and the technical skill involved and defined in the tender notice regarding the number of qualified technical person to be employed by the contractor

Contractor

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- a. A penalty of Rs. 2000/- per month for diploma holders and Rs.5000/- per month for degree holder be levied in case of default on the part of contractors in following the norms laid down above.
- b. The employment of technical Assistants could be based only on value of contract. Engineers with mechanical Engineering. qualification and retired from Civil Engineer Departments are also suitable to supervise the Civil Engineering works because of their experience in Civil Engineering field.

It will not be incumbent as the part of the contractor to employ technical Assistants when the work is kept in obeyance due to valid reasons and if during period in the opinion of the DEPUTY MANAGER (CIVIL), the employment of Technical assistant is required for the due fulfillment of the contract.

- c. In case of the contractor who is professionally qualified not in position to remain always at the site of the working hours personally checking all items of work and paying extra attention of the works as may demand special attention (eg) RCC work etc. he should employ technically qualified person as prescribed for the work.
- d. The Contractors who possess a degree in Mechanical of Civil Engineering may also have to appoint technical Assistants in case of Registered Contractors with degree in Electrical Engineering when they are entrusted with civil works by the Department.
- e. Engineers with Mechanical Engineering qualification and retired from Civil Engineering Department are also suitable for supervising the Civil Engineering works subject to condition that evidence for experience in Civil Engineering field is produced.

Contractor

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f. One Technical Assistant may be employed by the contractor for more than one work situated within one kilometre provided that monetary limit prescribed for the nature of Technical Assistants to be employed is adhered to by one and the same contractor.

20. A tenderer submitting a tender which the tender accepting authority considers excessive and or indicative of the insufficiency of the knowledge of current prices or definite attempt at profiteering will under himself liable to be debarred permanently from tendering or for such period as the tender accepting authority may decide. The tender rates should be based on the controlled price for materials. If any rates fixed by Govt. or the reasonable price permissible for the tenderer to change a private purchaser under the provisions of clause 8 of the Boarding the profiteering prevention ordinance 1943. as amended from time to time on similar principles in regard to labour and supervision in the construction.

21. The contractor should offer employment to ex-toddy tappers as far as possible. The number of ex-toddy tappers to whom he can so offer employment should be mentioned in the tender and he should undertake in the agreement to offer such employment to such number.

22. Contractors shall comply with the provisions of the apprentices. Act 1961 and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of Contract and the competent authority, may at his discretion, cancel the contract, or invoke any of the penalties for the breach of contract provided in the conditions of the contract. The Contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the Act.

Contractor

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23. In the case of contracts for construction of buildings, either permanent or semi permanent buildings a sum of equivalent to 2 1/2% of the value of work done will be retained from the date of completion of work in order to enable the department officers to watch the effect of all seasons on the work done by the contractor. The amount so retained with the Metropolitan Transport Corporation will be refunded only on the expiry of one year period referred to above and on execution of indemnity bond by the contractor for a further period of four years. The contractor shall be liable to set right all defects arising out of this faulty execution or substandard work noticed during the above five years period at his cost.

24. A movement register should be opened and maintained, for Technical Assistants by the contractor or for the Technically qualified Contractor. The Technical Assistants or Technically qualified contractor should note the arrival and the departure timing every day along with initials. Such register should be produced during inspection of the inspecting officers.

25. Without prejudice to the generating of the above clause the contractor shall during the currency of the contract when called upon the Engineer, incharge engaged and also ensure engagement by the sub-contractors and other employees by the contractor in connection with the work, such number of apprentices in the categories mentioned below and for such period as may be required by the Engineer - in-Charge.

26. The fact of submitting the tender implies that the tenderers have actually inspected the site of work and have examined before tendering the nature and extent of various kinds of soils at various depth and have based their tender in such examination by them and no future representation in this regard will be considered.

Contractor

GENERAL MANAGER (TECHNICAL)

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27. A statement giving brief particulars of equipment and resources that will be put at the disposal of the work under the following classifications should accompany the tender

- a. Equipment (Transport for materials viz. Lorries and carts, concrete mixtures)
- b. Organisation i) Technical ii) Unskilled
- c. Resources of materials like teakwood etc. and extend to which dept. help is required for procurement of materials and transport of the same.
- d. Methods that will be adopted to speed up the work to ensure completion with or less than the time fixed for completion.

28. The tender of the contract who agree to employ the medium number of ex-service men (number to be specified in the tender will receive preferential consideration. The tenders are requested to report on their covering letter.

29. The registered PWD contractors who had not already produced those certificates in the current year also should do so.

30. All rates quoted in the tender shall be inclusive of GST payable under the Goods and Service Tax Act as amended from time to time and that the contractor is responsible to file the GST return and pay the amount that is amended by the Commercial Tax Department. No request for payment of GST separately in addition to tendered rates due to any plea of subsequent levy increase in tax will be entertained vide also clause 38(2) of General conditions to contract.

31. Royalty on signierage charges will be charged for the material quarried from the PWD District Board forest or other Government quarries. No plot rent will be charged for materials stocked on Government Land during the course of construction work is completed.

Contractor

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Metropolitan transport Corporation
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32. Royalty or charges due for the use of private quarries and private land shall be paid by the contractor.

33. PRICE ADJUSTMENT CLAUSE:

33. a) Price adjustment clause shall be payable for a work for which the stipulated period of completion is fixed more than 18 (Eighteen) months. If the price of materials (not being materials supplied of Services rendered at fixed prices by the department) and/or wages of labour required for the execution of work increase and the amount of contract shall accordingly be varied, subject to the condition that such compensation for escalation in prices shall be available only for the work done during the stipulated period of contract including such period shall be available only for the work done during the stipulated period of contract including such period for which the contract is validly extended under the provisions of contract.

33. b) Similarly in the event of prices of materials and or wages of labour required for the execution of work decreases. there shall be a downward adjustment of the cost of work, so that such price of materials and/or wages of labour shall be deductible from the cost of work under the contact in which the stipulated period of completion of work is more than 18 months.

33 c) The department shall otherwise entitled to lay down the procedure by which the provision of this adjustment clause shall be implemented and the decision and formula decided by the department shall be FINAL and binding on the contractor. The formula decided for this clause will be incorporated in the agreement for the work to be concluded.

34. The contractor shall engage construction workers registered with the Construction Workers Welfare Board as required under the building and other construction workers (regulation of employment & conditions of Service) Act, 1996 (Central Act 27 of 1996).

Contractor

GENERAL MANAGER (TECHNICAL)
Metropolitan transport Corporation
Chennai -2

To

The Managing Director,
represented by the General Manager(Technical)
Metropolitan Transport Corporation (Chennai) Limited,
Chennai-2

Sir,

I/we do hereby tender and if this tender be accepted, undertake
execute the following work viz.

.....
.....
.....

As shown in the drawing and describing in the specification deposited in the office of
the Civil Division with such variation by way of alternations of additions to and omission
from the said works and method of payment as are provided for in the "conditions of
contract" for the sum of rupees

Such or a sums as may be arrived at under the clause of the "General condition
to contract" relating to payment on lumpsum basis or by final measurements at unit
prices.

2.(i) I/We have also completed the price list of item schedule "A" annexed (in
words and figures) for which I /We agree to execute the work and receive payment on
measured quantities as per the General conditions to the contract.

3. I/We do hereby distinctly and expressly declare and acknowledged that before
the submission of my our tender. I/We carefully followed the instructions in the tender
notice and have read the Tamil Nadu Building practice and the General conditions to
the contract therein and the Tamil Nadu Building Practice addenda volume and that
I/we have made such examinations of the contract documents and of the plans,
specifications, quantities and of the location where the said work is to be done and
such investigation of the work required to be done and in regard to the materials
required to be furnished has to enable me us to thoroughly understand the intention of

the same and the requirement covenants stipulations and restrictions contained in the contract and in the said plans and specifications and distinctly agree that I/We will not thereafter make any claim or demand upon the Metropolitan Transport Corporation based upon or arising out of any allegedmisunderstandings or misconception of mistakes or my our part of the said requirements and covenants, stipulations restrictions and conditions.

4. I/We enclose and income tax verification certificate. I/we being registered Public Works Department Contractor. I/We have already produced and income tax verification certificate during the Current year in respect of (here Particulars of the previous occasion on which the certificate was produced should be given) in legal address of the contractor for service of all letters of notices will be as follows.

5. (i) (a) I/We enclose herewith a challan for the payment of the sum of Rs _____ as Earnest Money not to bear interest.

5. (i) (b) I /We have paid Rs. _____ (in figures) Rupees (only)

5 (ii) (c) In lieu of cash deposits, I/We _____ have enclosed a certificate bearing No _____ Date _____ issued by _____ for a value Rupees (_____ Only)drawn endorsed pledged in favour of MTC.

5 (ii) (d) I am we are _____ and hence exempted from payment of E.M.D.

Contractor

GENERAL MANAGER (TECHNICAL)
Metropolitan transport Corporation
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6. If my /our tender is not accepted this sum shall to returned to me/son, my/our application. When intimation sent to me /us of rejection or at the expiration of two months from the date of this tender or finalization of Tender whichever is earlier. If tenders are accepted, the EMD shall be retained by Metropolitan Transport Corporation as security for the due fulfillment of the contract. If written intimation being given to me us by the authority authorised by the Governor under the Article 299(I) of the constitution. (Here in after called "the accepting authority") of acceptance of tender, I/we fail to make the additional security deposit then I /we agree to the forfeiture of the EMD. Any notice required to be serve on me/us hereunder shall be sufficiently served on me/us If delivered to me us personally or forwarded to me us by post(registered or ordinary)of left at my/our address given herein. Such notice shall if sent by post of deemed to have been served on me/us at the time when in due course of post it would be delivered at the address to which it is sent.

7. I/We fully understand that on receipt of communication of acceptance of tender from the accepting authority there emergent a valid contract, between me /us and the Governor of Tamil Nadu and Tender Documents (i.e) tender notice tender with general Schedule, condition to the contract, and special condition of the tender negotiation letter communication of acceptance of tender shall constitute the contract for this purpose and be the foundation of rights as defined in, clause IV of tender notice. Provided that it shall be open to the accepting authority to insists on execution any written agreement by the tender, if administratively considered necessary or expedient.

8. I/We have also signs the copy of Tamil Nadu Building Practice and National Building Code and addenda column there to maintained in the office of the Civil Division Metropolitan Transport Corporation Limited Chennai-2. Acknowledgement of being bound by all conditions of the clauses of the general conditions to the contract and all specifications for items of works described by the specification number in Schedule (A).

Contractor

GENERAL MANAGER (TECHNICAL)
Metropolitan transport Corporation
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9. In consideration of the payment of Rs..... or such sum as may be arrived at under clause of the general condition to the contract relating to the payment on lumpsum basis or by final measurements at unit prices, I we agree subject to the said condition to execute and complete the works shown upon the said drawing severally number from 1 to inclusive of (scheduleB)and described in the specifications (ScheduleC) and to the extent of probable quantities. shown in(ScheduleA)with such variation by way of additions to or alternations. Deductions from the said work and method to payment therefore as are provided for in the said conditions.

10. The term GENERAL MANAGER (TECHNICAL) in the said condition shall mean the Metropolitan Transport Corporation officer incharge of Division having jurisdiction for the time being over the work, who shall be competent to exercise all the powers and privileges reserved, herein, favour of Metropolitan Transport Corporation with the previous sanction of or subject to ratification by the Competent authorities in case, where such sanction or rectification may be necessary and who has been duly authorised under Article 299(I) of the Constitution.

11. IWe agree that the time shall be considered as the "Essence of this contract" and to commence to work as soon as this contract is accepted by the competent authority as defined by the Tamil Nadu PW code and the site or premises is handed over to me/us as provided for in the said condition and agreed to complete the work within..... month from the date of such handing over of the site or premises and show progress as defined in the tabular statement. "Rate of progress" subject nevertheless to the provision for extension of time contained in clause 56 of the general conditions to the contract appendix to the Tamil Nadu Building Practice.

Contractor:

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation (Chennai) Ltd.
Chennai-2

12. I/We agree that upon the terms and conditions of this contract being fulfilled and performed to the satisfaction of the GENERAL MANAGER (TECHNICAL), the security deposit, deposited by me/us herein before recited or such portion thereof as I/We may be entitled to under the said conditions be paid back to me/us as provided in clause 64 of general condition to the contract.

13. I am/we are professionally qualified and my/our qualification are given below:

Name	Qualification and Experience
------	------------------------------

I/we in pursuance of clause of tender notice undertake to employ the following technical staffs for supervising the works and will see that one of them is always at site during working hours personally checking all items of works and paying extra attention to such works as may require special attention (eg.) reinforced cement concrete works.

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Metropolitan Transport Corporation (Chennai) Ltd.
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Name of technical staff
Proposed to employed

Qualification and Experience

Note:

- a. The last two clauses should be scored out if the cost of the work involved is less than Rs.1 lakh.
- b. The tenderers should scored out the last clause of the according they are themselves professionally qualified or undertake to employ technical staff under them.

S.No.14

I/we agree that the arbitrator for fulfilling the duties setforth in the arbitration clause of the general condition to contractor shall be.

- i) The Managing Director in case the value of claim does not exceed Rs.50,000(Rupees Fifty thousand only)
- ii) I/we agree that in case of the value of claim is over Rs.50,000/- and above, the remedy will be through the competent civil court only.

Signature of the contractor
With full address with Name
In block letters

15. In pursuance of negotiation with the Managing Director, Metropolitan Transport Corporation, Chennai on.....I/we agree to reduce the rate for the items on the schedule as follows.

Contractor:

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation (Chennai) Ltd.
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S.No	Item No. in the tender Schedule	Tender Rate	Reduced rate per unit

SIGNATURE OF THE CONTRACTOR.

16. On behalf of Metropolitan Transport Corporation and as duly authorized by the Managing Director the above tender for a value of Rs..... (Rupeesonly) is accepted on this day. 20 .

Signature of the Witness
In full address with name
In block letters.

Signature and Designation

Contractor:

GENERAL MANAGER (TECHNICAL)
Metropolitan Transport Corporation (Chennai) Ltd.
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The tenderers attention is directed to the requirements for materials under the clause "materials and workmanship" in the General conditions to the contract Materials conforming to I.S.I. standards shall be used on the work and the tenderer shall quote his rates accordingly.

Every tenderer is expected before quoting his rates, to inspect the site of the proposed work he should also inspect the quarries and satisfy about the quality and availability of material. The names of quarries and klins etc., where from certain materials are to be obtained will be given in the descriptive specification sheet. The best class of materials to be obtained from the quarries or other source defined shall be used on the work. In every case the materials must comply with the relevant standard specifications samples of materials as called for in the standard specifications or in this tender notice or as required, by DEPUTY MANAGER (CIVIL). In any case shall be submitted for the Deputy Manager (Civil) approval before the supply to site of work is begun. If the contractor after examinations of the source of materials defined in the Descriptive specification sheet is of the opinion that materials complying with the standard or other specifications of the contract cannot be obtained in quality or sufficient quantity from the source defined in the descriptive specification sheet he shall so state in his tender and state where from he intends to obtain materials subject to the approval of the DEPUTY MANAGER (CIVIL).

The Government will not, however after acceptance on contract rate pay any extra charges for lead or for any other reason incase the contractor is found later on to have mis-judged the materials available. Attention of the contractor is directed to the General condition to the contract regarding payment of seignorage tools etc.,

Additional conditions:

On evolution of tender, it is found that if the overall quoted amount of the tender is less than 5 to 15% of the value put to tender the contractor shall pay additional security at 2% of the estimated value put to tender. If the tender discount exceeds 15% to 20%, the contractor shall pay the additional security deposit of 50% of the difference between the quoted amount and the estimate value put to tender. Failure to furnish the additional security deposit with in 15 days from the date of receipt of acceptance order and execute the agreement shall entail cancellation of award of contract and for forfeiture of E.M.D. furnished.

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ADDITIONAL CONDITIONS TO THE TENDERS.

a) The quantity of materials such as Cement, Steel, Tarpad etc., brought into the Depots / Terminals premises should be recorded in the Register available at Security gate and also to be entered in the Register or Hand Book to be maintained at Site by the Assistant Engineer (Civil) concerned.

b) For works at Depots / Bus Terminals if water source is not available then it should be arranged by the Contractor himself without claiming any extra cost.

GST REGISTRATION & DEDUCTION OF GST FROM BILLS

All rates quoted in the tender shall be inclusive of GST under the GST Act as amended from time to time and that the contractor responsible to file the GST return and pay the amount of Tax as demanded by the Commercial Tax department. No request for payment of GST separately in addition to tendered rates due to any plea of subsequent levy or increase in tax will also be entertained vide clause 38(2) of general conditions to contract.

The tendered should be required to indicate their GST registration number under the Goods and Service Tax Act in the tender form and- produces GST clearance certificate issued by the Commercial Tax Department before final settlement of bills.

As per GST rules inforce TDS will be deducted from Bills.

Contractor:

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REVENUE RECOVERY ACT

When ever any amount has to be paid by the contractor in view of termination of the contract by virtue of clause 87 (4) any amount that may be due or may due from the contractor under their presents and the contractor is not responding to the demands for the payment of said amount, then the government shall be entitled to recover the said amount under the provision of the revenue recovery act.

ARBITRATION CLAUSE

In case any dispute or difference between the contractor and executing department either during the progress or after the completion of the works or after termination, abandoned or breach of the contract or as to any other matter or thing arising there under except as to the matter left to the sole discretion of the Managing Director, Managing Director as to the withholding by the Managing Director from the payment of any bill to which the contractor may claim to be entitled. Then either party shall forthwith give to the other notice of such dispute or difference and such dispute or difference shall be referred to the arbitration circle (herein after called as the Arbitrator) in case where the value of claim is less than or up to Rs.50,000/- (Rupees fifty thousand only). In case where the value of claim is more than Rs.50,000/- the parties will seek remedy through the competent civil court.

ADDITIONAL CONDITION

The work executed by the contractor or under this contract shall be maintained by the contractor's risk until the work is taken over by the DEPUTY MANAGER (CIVIL). The government shall not be liable to pay for any loss or damages occurred by (or) arising out of fact of good during such period and that the option whether to take necessary Insurance coverage (or) not to care such risk is left to the contractor.

The contractor shall not be liable for all or any loss of damages occasioned by or arising out of facts of foreign enemies, invasions, hostilities or war like operations (before or after declaration of war) rebellion military power.

SPECIAL CONDITION

The work should be executed in accordance with the circular instruction of the Managing Director, Metropolitan Transport Corporation; Chennai -2 issued time-to-time copy of the circular instructions can be pursued in circle office duty office hours.

"Any amount fall on as due from the contractor on account of this contract even after effecting recoveries from the bill for this work and other works to the contractor will be arranged to be recovered from the contractor under the provisions of the revenue recovery Act"

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ADDITIONAL CONDITION

An amount equal to 21/2% of the total value of work done shall be withheld from the final bill and retained under deposits for a period of one year from the date of completion of the work in order to watch effect of all seasons on the work. If there are no defects, or if defects are noticed within this period of four years and are rectified, the withheld amount will be refunded.

SPECIAL CONDITION FOR GST

All rates quoted in the tender shall be inclusive of GST payable under the GST act as amended from time to time and that the contractor is responsible to file the GST return and pay the amount of tax as demanded by the Commercial Tax Department. No request for payment of GST separately in addition to tendered rates due to any plea of subsequent levy or increase in tax will be entertained vide also clause 38(2) of general conditions to contract

CONTRACTOR SPECIAL ATTENTION

1. Clean river sand shall be used in all cases
2. Only clean fresh water shall be used on the work. The Contractor shall make his own arrangements for water and shall be used on the work and shall meet all charges. The special attention of the contractor is drawn to clause 39 of preliminary specification of the TNDSS regarding water and lighting.
3. The broken stone for concrete RCC works should be granite and passed by the Executive Engineer.
4. "All iron work or steel work of every kind such as to be embedded in concrete shall immediately on arrival at the site be properly scrapped in wire brush and given priming coat of approved lead painting without claim for extra.
5. The iron holdfasts shall be built up in cement mortar 1:3 at the time of construction of walls. No extra claim shall be for the same wherever holdfasts are to be provided to 9" thick walls. These should be fixed with cement concrete 1:3:5 using 20mm gauge broken granite stone jelly for proper anchorage and proper binding. No separate rate for such pockets of concrete filling at hold fast points will be allowed and this will be measured as masonry along with adjacent masonry.
6. The teak wood shall be of best Indian Teak wood only and shall be subject to inspection and approved by the DEPUTY MANAGER (CIVIL) before use on the work. Country wood where specified shall be of karimarudhu or kongu for scantling and Aiyini for planks.
7. Holes for electric wiring, water supply and drainage etc., shall be provided as directed during progress of work without any claim for extra.
8. The work will be carried out with the least hindrance to the adjoining building and the contractor will be responsible for any damages caused to the existing fixtures electric fittings etc., in the course of execution and the contractor shall make good any damages without, any claim for extra.
9. In the case of I beams and EII beams the quantities given in the schedule is the quantity of rib portion only. The top flange portion will be always measured with the general slab portion and paid for at the slab rate only. For all RCC works the rate shall include the treatment of hearing as per plat No.2 of 1946 as per TNDSS (Page 5 of 1964 addition)

10. Concrete works, all exposed concrete surfaces will be required to be finished by cement plaster as detailed in schedule A.
11. Plastering all external corners, edges of beam, edges of doors and window openings etc., shall be finished sharp using richer mortar and also finished truly vertical or horizontal as the case may be. The rate for plastering shall include the costs of finishing as above and no separate for the corners, edges, beams etc., shall be paid.
12. If rates are not separately called for similar items of works in different floors, the contractor should more than one rate is applicable for all floors indicated in the detailed plans, any claim for extra for such items will be entertained under any circumstances.
13. The Managing Director, reserve the right to split up the work and entrust the main work, internal water supply and sanitary arrangements to different contractors without assigning any reasons there of.
14. The projection if any to the masonry will be measured under the relevant items and no extra will be paid for finishing the same.
15. The contractor should not claim any extra rate on account of delay in the event of Electrical works and other works taken up by Electrical wing or other wing of the department during execution of civil work.
16. The contractor should execute the work with the least hindrance to the occupying department. It is full responsibility to execute the work without any disturbance to the smooth functioning of the occupying department.

ADDITIONAL SPECIFICATION

1. The arrangement of M.S.rods for all RCC works shall be in accordance with the working drawing supplied.
2. i. The planks for forms and catering for RCC works shall be of well-seasoned timber approved by the Managing Director according to clause 10 of TNDSS No.30. They must be made smooth and perfectly level at top so as to give smooth and even finish to RCC ceilings. Alternatively the contractor may use steel sheets over wooden forms as to obtain the required finish to the under side of the slab. The mango planks shall not be used. Centering shall be provided to the extent and area by the Managing Director work during execution.
 - ii. Payments for centering works for all RCC items shall be made only after the concrete is laid over though separate items for centering works are included in the schedule.
 - iii. All concrete for RCC works shall be machine mixed and vibrated.
 - iv. All time mortar shall be ground in mortar and will as per TNDSS .

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ADDITIONAL CONDITION I

1. The material noted in the list enclosed will be supplied departmentally at the section stored at site of work and the cost will be recovered from contractor's bill at issue rated noted against each.
2. The contractor shall be responsible for the safe custody and storage of the materials under dry conditions at the places of the works spot approved by the DEPUTY MANAGER (CIVIL).
3. No royalty shall be charged where due for materials quarried from the public works Department or District Board or other Government Quarries necessary assistance will be given to the contractor by the P.W.D to obtain access to quarries approved by DEPUTY MANAGER (CIVIL). No plot rent shall be charged for materials stacked on the Govt. Land during the course of construction provided all such materials are removed within a month after the work is completed.
- 3.1 The contractor should use steel centering (c) sheets over wooden frame so as to obtain the required finish to the underside of the slab. The centering steel sheets must be made smooth and perfectly level at top as to give smooth and even finish to the RCC ceiling. Centering and form works shall be provided to the extent and area ordered by the DEPUTY MANAGER (CIVIL) during execution.
4. Royalty or charges due for use of private land shall be paid by the contractor.
5. The contractor shall form his own approach road to the work site for which no extra will be paid to him; on completion of the work the contractor shall not be permitted to remove the materials laid for formation of roads. If the contractor is allowed to use the existing road, he shall maintain them in good condition at his own cost throughout the period of the contract.
6. Any surplus material remaining at the site will not generally be taken over by the department, whether before or after the completion or termination of contract. Such materials either which were originally procured by the contractors were issued to the contractors by the department and can however be taken over by the department if required, for use on other works which are in progress only by special arrangements and at the prevailing market rates viz. the rates at which the article or articles of similar description can be procured at a given time at the stores, godown from public market suitable to the division for obtaining supply thereof. '
- 6.1 If the materials were originally used by the department, the price allowed to the contractor on reacquisition shall not exceed the amount charged to the contractor excluding the claim of storage charge if any. .
- 6.2 If at any times subsequent to the, execution of this arrangement. Govt materials other than those specified in the agreement are supplied to the contractor for use in the work they will be charged at the market value prevailing at the time of supply of stock issue rate which ever is higher.

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- 6.3 The surplus materials which were originally issued to the contractor by the department for the work shall not be removed from the site of work without getting the written permission of DEPUTY MANAGER (CIVIL),
7. The contractor special attention is invited to clause 37 and 38 of the preliminary specification of TNDSS and he is requested to provide at his own expenses shed, latrine and urinals for his workmen.
8. If night work is required to fulfill the agreed rate of progress all arrangement shall be made by the contractor inclusive of lighting with out any claim for extra.
9. The contract shall not employ the labour below the age of 12 years(**Employment of Children Act**), and shall also note that they must offer employment to ex-servicemen ex-today tapers and un employed agricultural labourers as for as possible.
10. Any of the items in the schedule may be omitted or radically altered. No variation in rate shall become payable to contractor on account of such commissions or variation in quantities.
11. Reference to TNDSS in the schedule of quantities referred to report 1952 and addenda corrigenda issued there after. .
12. The construction of the building will be deemed to be complete only if all the items of works including finishing items contemplated herein are executed.
13. The contractor shall abide the contractor's labour regulation of the PW framed by the Tamil nadu Government.

ADDITIONAL CONDITIONS OF CONTRACT II

1. The contractor shall at his own expense provide arrangements for the provisions of footwear for any labour doing cement mixing work and all other similar type of work involving the use of tar, mortar etc., to the satisfaction of the Engineer-In-Charge and on, his failure to do so the Government shall be entitle to provide same and recover the cost from the contractor.
2. When there are complaints of non-payment of wages to the labour, bills of the contractor may be with held pending a clearance certificates *from* the labour Department '

ADDITIONAL CONDITIONS III

Rules for the provision of Health, and sanitary arrangements for workers employed by the PWD and its contractors.

The contractor's special attention is invited to clause 37,38,39 and 51 of preliminary specification to the Tamil Nadu detailed standard specification and he is requested to provide at his own expense, the following amenities to the satisfaction of the DEPUTY MANAGER (CIVIL).

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The excretes from the latrines shall be disposed off at the contractor's expenses in outside pits approved by the local Public Health Authority. The contractor shall also employ adequate number scavengers, conservancy staff to keep the latrines and urinals in a clean condition Shelters during Rest:

5. At the work site, two suitable sheds shall be provided at free cost two suitable sheds one for meals and another for rest for the use of labour.

CRECHES

6. At every work place at which 25 or more women are working there shall be provided two huts of suitable size for the use of children under the age of 6 years belonging to such women. One hut shall be used for infants, games and play and the other as their bedroom. The huts shall not be constructed on lower standard for the following

i. Thatched roof.

ii. Mud floors and walls

iii. Planks spread over the mud floor and covered with matting.

The size of the creche or creches should vary according to the number of women workers. The creches should be properly maintained and necessary equipment like toys etc., should be provided and huts shall be provided with suitable and sufficient sweepers to keep the place clean. There shall be two ayahs in attendance, sanitary utensils shall be provided to the satisfaction of the Health officer of the area concerned.

The number of the huts shall be restricted to children their attendants and attendants of the children.

7. A cooked food Canteen on a moderate scale be provided for the benefits of the worker it is considered expedient.

Shed for Workmen:

8. The contractor should provide at his own expense, shed for housing the workmen. The sheds shall be on a standard not less than the cheap shelter type of live, in which the work pertaining to locality an accustomed too. A floor area about 6' x 5' for 2 persons shall be provided. The sheds are to be in row, with 5 clear spaces between sheds and clear space between rows if conditions permit The work camp shall be laid out in units of 400 persons each. Each unit to have clear space of 48 all-round.

ADDITIONAL CONDITION IV

Safety provision in the building industry conditions in addition to clause 36 of preliminary specification of TNDSS

PART I ARTICLE I

1. Suitable scaffolds shall be provided for workmen for all work cannot be safely done from a ladder or by other means.

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2. A scaffold shall not be constructed, taken down or subsequently altered except. Under the supervision of a competent and responsible person and
 - b. by competent workers possessing adequate experience in this kind of work.
3. Scaffolds shall be so constructed that no part there of can be displaced in consequent of normal use.
4. Scaffolds shall be over loaded so far as practicable and shall be evenly distributed.
5. Before installing lifting gear on scaffolds special precautions shall be taken to ensure the strength and stability of the scaffolds.
6. Scaffolds shall be periodically inspected by a competent person.
7. Before allowing a scaffold to be used by his workmen every employee shall, satisfy as to whether the scaffold has been executed by his workmen or not. He should take steps to ensure that it functions fully with the requirements of this article.

ARTICLE II

1. Working platforms, gangways and staircase shall be so constructed that no part there of can sag unduly or unequally.
 - a) Be so constructed and maintained to obviate from risks of person tripping or slipping and
 - b). be kept free from any unnecessary obstruction.
 - c. Every working platform gangway, working place and staircase should be suitably forced .

ARTICLE III-

1. Every opening in the building or in a working platform shall except from the time and to the extent required to allow that excess of persons or the transport or shifting of materials provided with variable means to. Prevent the fall of persons or materials.
2. When person are employed on a roof when there is danger of falling from height exceeding that to be prescribed any national laws of regulations suitable precautions shall be taken to the fall of persons or materials
Suitable precautions shall be taken to prevent persons being struck by articles, which might fall from scaffolds or other working places.

ARTICLE IV

1. Safe means of access shall be provided to all working platforms and other working places.
2. Every ladder shall be securely fixed and of such length as to provided secure handhold and foothold at every position at which it is used.
3. Every place where work is carried on and the means of, approach there to shall be adequately lighted.

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4. Adequate precautions shall be taken to prevent danger from electrical equipment
5. No materials on the site shall be so attached or placed as to cause danger to any person.

PART II

GENERAL RULES TO HOISTING APPLIANCES

ARTICLE -V

1. Hoisting machines and tackle including their attachment anchorages and support shall.

a. be of good mechanical constructions sound materials and adequate strength and free from patent defects and .

b: be kept in good repair and in good working order.

Every rope used in hoisting or lowering materials or as a means of suspension shall be of suitable quality and adequate strength and free from patent defects.

ARTICLE VI

1. Hoisting machines and tackle shall be examined and adequately tested after erection on the site before use and re-examined in position at intervals to be prescribed by national law and regulations.

2. Every chain ring hook, shackle, swivel and pulley block used in hoisting or lowering materials or as a means of suspension shall be periodically examined.

ARTICLE - VII

Every crane driver or hoisting appliances operator shall be properly qualified.

2. No. persons under an age to be prescribed by national laws, regulations shall be in control of any hoisting machinery including any scaffold which or give signals to the operator.

ARTICLE VIII

1. In the case of every hoisting machine and every chain ring, hook, shackle swivel and pulley block used in hoisting or lowering or as a means of suspensions the safe working load shall be ascertained by adequate means.

2. In the case of hoisting machine having a variable safe working load, each, safe working load and the conditions under which it is applicable shall be clearly indicated.

3. Every hoisting machine and all gear referred to in the proceeding shall be plainly marked with the safe working load.

4. No part of any hoisting machine or any gear referred in paragraph 1 of this article shall be loaded beyond the safe Working load except for the purpose of testing.

ARTICLE IX

1. Motors gearing, transmission, electrical and other dangerous parts of hoisting appliance shall be provided with sufficient safe guards.

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2. Hoisting appliances shall be provided with such means as well reduce the risk of the accidental descent of the load.
3. Adequate precautions shall be taken to reduce the risk of any part of suspended load becoming accidentally displaced.

Part III

GENERAL RULES TO SAFETY EQUIPMENT AND FIRST AID.

ARTICLE X

1. All necessary personal safety equipment shall be kept available for the use of the persons employed on the site and be maintained in a condition suitable for immediate use.

2. The workers shall be required to use the equipment thus provided and employer shall take adequate steps to ensure proper use of the equipment by these concerned.

ARTICLE XI

When work is carried out the proximately to any place where there is a risk of drawing necessary equipment shall be provided are kept ready for use and all necessary steps shall be taken for the prompt of rescure of any person in danger.

ARTICLE XII

Adequate provision shall be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

ARTICLE XIII

Where large work places are situated in cites, towns or in their suburban and no beds are considered necessary owing to the proximity to city or town hospital suitable transport shall be provided to facilitate removal of urgent cases to the hospital at their work places, some conveyance facilities, such as car shall be kept readily available to the injured person or persons suddenly taken seriously ill to the nearest hospital.

MOSAIC FLOORING.

1. Cement concrete flooring tiles shall be manufactured from a mixed cement natural aggregates and colour materials where required by pressure process. During manufacture, the tiles shall be subjected to a pressure of not less than 140 kg per sq.m (or 2000 lbs.sq.inch).

2. On removal from mould the tiles shall be kept in moist condition continuously for atleast 7 days and subsequently if necessary kept moist for such a longer period that would ensure the conformity to the requirements to transverse, strength Resistance to wear and tear absorption and would minimize shrinkage and cracking, tiles shall be stored under cover.

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3. Tolerance: Tolerance on length and breadth shall be plus or minus one millimeter, tolerance of thickness shall be plus 5mm that the range of dimensions if any one delivery of tiles shall get rejected which exceeds 1mm of length and breadth and 5mm on thickness.

4. Proportions of cement to aggregate in backing of the tiles shall not be less than 1:5 by weight.

THICKNESS OF WEARING LAYERS.

Class of Tiles.	Minimum thickness wearing layer.
Plain cement and plain coloured tiles for general duty	3mm
Plain cement and plain coloured tiles for heavy duty	6mm
(Mosaic) Terrace tiles with chips of size varying from the smallest up to 6mm (1/4")	5mm
(Mosaic) Terrace with tiles with chips of size varying from the smallest up to 12mm (1/2")	5mm
(Mosaic) Terrace tiles with chips of size varying from the smallest up to 20mm (1/2")	6mm

6. Colours and appearance: The colour and texture of the wearing layers shall be uniform throughout its thickness.

7. When specifying the tiles the contractor should specifically indicate whether the chips to be used are from the smallest units up to 6mm from smallest up to 12mm or from the smallest up to 20mm size. The officers of the department shall also specify size of chips by referring the approximate photograph given in figure 4 to figure in Indian standard 1236/1959.

GENERAL QUALITY OF TILES

8. Unless other wise required the wearing face of the terrace tiles shall be mechanically sound and flat. The wearing face of the tiles shall be plain free from projection, depressions and crack (Hair cracks not included) and shall be reasonably parallel to the back free of tiles. All angles shall be right angles and all edge shall be sharp and true.

9. Breaking transverse strength of tiles shall be given as below:

Size of tiles.	Span	Breaking Strength	Load based dry test.
19.85X19.85cm	15cm	71kg	106kg
14.85X24.85cm	20cm	90kg	120kg
29.85X29.85cm	25cm	99kg	149kg

The average wear of not less than 12 specimens shall not exceed 2mm and the wear on any individual specimen shall not exceed 2.5cm when tested in a Vibration machine.

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11. The average percentage of water absorption shall not be less than six full tiles and shall not exceed ten in the case of water absorption test 12. The density of the tiles shall be in the order of about 2.5 Kgs. The tiles shall laid with the minimum possible width of joints shall be filled with gray cement to match the finish of the tiles and shall be made almost invisible when the floors is given the final polish. The polishing shall be done by means of electric polishers wherever possible and hand polish to other places like verticals faces. or walls. Covers and other areas where the machines can have no access and to high degree so as to present a perfectly smooth and glossy surface as even as possible.

All angles at junction of vertical faces shall be rounded off to 1 1/2 radiuses with same quality of materials and colour of the tiles of the floor. But laid in site and these cover shall be measured as part of flooring and paid for at the same rates as the flat floors. The colours of the tiles shall generally match other coloured face adjacent or as may be directed by DEPUTY MANAGER (CIVIL).

The dadoing and skirting have to be finished by giving necessary rates in the brick wall itself so that the projection does not exceed 3\4 from the face of the wall i.e., the finish plastered surface.

Based on the modulus of raptures of 30 Kg per sq.m for dry test and two thirds of the value wet test.

GUIDELINES FOR ADOPT IN OF STRENGTH GARDENING OF CONCRETE

Plain and reinforced concrete have been graded according to the cube compressive strength and designated as M 100. M 150. M 250, M 300, M 350 and M 400. In the designation of concrete the letter "M" refers to the mix and the number to the specified 28 days work cube compressive strength of the mix expressed in Kg/Cm²

Approximately the M100. M150, M200 & M250 grades of concrete corresponds to 1:3:6,1:2:4.1:11/2:3 and 1: 1:2 nominal mixes of ordinary concrete, currently used the national building code given necessary specification for strength gardening of concrete proportionately and works control and the same may be followed the extract of the same in enclosed.

The proportion of aggregate cement and water to be used for controlled concrete shall be designed by preliminary tests to the materials to be actually used to obtain the specified strength with the use of maximum quantity of cement. However, the maximum total quantity of aggregate by weight per 50 Kg of cement shall not normally exceed 450 Kg.

For any particular item compressive strength required to be obtained by the concrete at 28 days in the preliminary and work tests on the 15cm cubes minimum cement content required to be used and the approximate proportions of approved fine and coarse aggregates shall be specified in the tender schedule.

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These particular will be only for the guidance of the contractor for quoting rates. Immediately on receipt of the award of contract, the contractor shall inform the DEPUTY MANAGER (CIVIL).

(a). It exact location of the source of the materials which he propose to use and got the materials approve.

(b).The mix with the actual approved materials to be used shall be got designed in an approved laboratory by the contractor with the minimum quantity of cement to give the specified strength in the preliminary tests and the proportions got approved from the DEPUTY MANAGER (CIVIL)in writing. These proportions shall be used so long as the materials continue to be of the same quality and the same sources subject only to slight changes in the relative qualities of fine and coarse aggregate for the purpose of promoting work ability, provided the works tests also show the required strengths. If during the progress of work, the contractor wishes to change the materials, the proportions shall be fixed on the basis of fresh preliminary test to give the required strength after the DEPUTY MANAGER (CIVIL)is satisfied that the materials satisfy the specification. No adjustment of cost shall be made for change of proportions of cement fixed on the original preliminary tests

PROPORTIONING OF MIX:

Each batch of mix shall be proportioned by weight of cement fine aggregate and coarse aggregate. Water for each batch shall be added in quantity measured by volume or by Weight. Where weight of cement determined by accepting the market weight per bag a reasonable number of bags shall be weighted separately from the aggregate. All weighting equipments shall be maintained in a clean and serviceable condition and their accuracy checked periodically.

MIXING.

Mixing shall be done only by mechanical mixer. The quantities of the aggregate and water shall be adjusted duly in the field to compensate for bulkage due to the quantity of moisture present in the fine aggregate and free water in coarse aggregate test of the time of use.

TESTS:

Tests shall be got done in an approved laboratory, at the cost of the contractor.

A. PRELIMINARY TEST: -

If concrete mixes are specified by its strength then mix needs be designed and preliminary test should be carried out.

A preliminary test is conducted in a laboratory on the trail mix of concrete produced in the laboratory with the object of:

- a) Designing a concrete mix for the actual concrete operation starts.
- b) Determining the adjustments required in the designed mix when there is a change in the materials used during the execution of work or
 - b. Verifying the strength of cement mix.

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WORK TESTS:

The test shall be conducted either in the field or in a laboratory on the samples made on the workspot of the concrete used on the works.

The samples shall be spread as evenly as possible throughout the day then wide changes of weather conditions occur during concreting additional sample may be taken as desired by the DEPUTY MANAGER (CIVIL).

All expenses on the tests shall be born by the contractor. Nothing extra shall be paid to the contractor for carrying out the tests.

All samples for tests shall be taken in the presence of the Assistant Engineer concerned and the contractor or his authorized agent.

The mix design and test data and results shall to maintain as a part of a record of the contract and shall be signed by the Assistant Engineer concerned and the contractor.

A register of cement concrete cubes cast and tested giving the following particulars shall be maintained at the site.

1.Name of work and reference to agreement

2.Serial No

3. Data and time of sample taken

4.Sample No.

5.Number of cubes

6.Identification- Marks

7.Proportions of mix

8. Description of the portion of work represented by the sample and quantity of concrete represented by the sample.

9.Initial of Assistant Engineer and contractor's authorized agent in whose presence the sample is taken.

10.Result of 7 days test

11.Result of 28 days test

12.Reveiw and remarks by DEPUTY MANAGER (CIVIL)

EXTRACT:- NATIONAL BUILDING CODE OF INDIA 1970

PART VI - SECTION 5-A PLAN AND REINFORCED CONCRETE

4.2 Grades of concrete.

4.2.1 Plain and reinforced concrete shall be in seven grades designate as M100, M150, M200, M2250 M300m and M400.

Note : In the designation of a concrete mix letter "M" refers to the mix and the number of the specified 28 days work cube compensate strength of that mix expressed in KG/Sq.cm.

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4.2.2.1 Where ordinary Portland cement or portland blast furnace slag cement conforming to accepted standards VI-5(2) L.S.269/1967 specification for ordinary rapid hardening and low heat Portland cement. The compressive strength requirements for various grades of concrete shall be as given in Table.

1. Where rapid hardening portland cement is used, the 28 days compressive strength requirements specified in Table-1 shall be at 7 days. Wherever other cements are used the Engineer in charge shall specify the corresponding requirements preferably on the basis of preliminary tests.

IS 269/1967 - Specification for ordinary rapid hardening and low heat Portland cement.

IS 455/1967 Specification for Portland and blast furnace slag cement.

4.2.2.2 The strength requirements specified in Table I shall apply to both controlled and ordinary concrete (Sec. 43.1) preliminary tests need not, however be made in the case of ordinary concrete.

a. In order to get a relatively quicker idea of the quality of concrete optional works test or iron beams for modulus of rupture at 72+2 hours or at 7 days, or compressive strength tests at 7 days may be carried out in addition to 28 days compressive strength tests. In all cases 28 days compressive strength specified in Table I, shall be the criteria for acceptance or rejection, of the concrete. If however, from tests carried out in a particular job over a reasonable long period, it has been established to the satisfaction of the Engineer in charge that a suitable ratio between the 28 days compressive strength and the modulus of rupture at 72+2 hours or at 7 days, or compressive strength at 7 days may be accepted. The Engineer -in-charge may suitably relax the frequency of 28 days compressive strength test specified in Table 5 provided that the expected strength values at the specified early age are consistently met. For this purpose the values given in Table 2 may be taken for general guidance in the case of concrete made with ordinary cement.

b. Where the strength of a concrete mix, as indicated by test lies between the strength for any two grades specified in Table 1, such concrete shall be classified for all purposes as a concrete belonging to the lower of the two grades between which its strength lies.

4.3 PROPORTIONING AND WORK CONCRETE

4.3.1 Methods of proportioning the determination of the proportions of aggregates and water to attain the required strength shall be made by one of the following.

a. With the preliminary tests by designing the concrete mix such concrete shall be "ordinary concrete" called controlled concrete.

b. Without preliminary tests by adopting nominal concrete mixes. Such concrete shall be "Ordinary concrete"

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4.3.2 Controlled concrete.

4.3.2.1 As far as possible controlled concrete should be used on all concrete works, controlled concrete for use in plain and reinforced concrete structure shall be in grades, M100, M150, M200, M250, M300, M400

4.3.2.2 The concrete mix shall be designed to have an average strength corresponding to the values specified for preliminary test in Table 1. The proportions chosen should be such that the concrete is for adequate work ability for the conditions prevailing on the work in questions and maybe properly compacted with the means available.

The maximum total quantity of aggregate by weight per 50 Kg of cement shall not exceed 450kgs except where otherwise so specifically permitted by the Engineer-in-charge.

4.3.2.3 Except where it can be shown to the satisfaction of the Engineer in charges that supply of properly grade aggregate of a uniform quality may be maintained over the period of work and grading of aggregate should be stocked in separate stockpiles. The materials should be stock piled for several, hours probably a day before use.

The grading of coarse and the aggregate should be checked as frequently as for as possible the frequency for a job being determined by the Engineer in charge to ensure that the suppliers are maintaining the grading uniform with that of the samples used in the preliminary tests.

4.3.2.4 In proportioning concrete, the quantity of both cement and aggregate should be determined by weight. Where the weight of cement is determined by accepting the manufacturer's weight per bag, a reasonable number of bags should be weighed separately to check the net weight. Where the cement is weighted on the site and not in bags it should be weighed separately from the aggregates. Water should be either measured by volume in calibrated tanks or weighed. All measuring conditions and their accuracy may be periodically checked.

4.3.2.5 It is most important to maintain the water cement ratio constant as its correct value. To this end determination of moisture contents in both fine and coarse aggregates should be made as frequently as possible. The frequency for given job being determined by Engineer-in-charge according to weather conditions. The amount of the added water should be adjusted to compensate for any observed variations in this moisture content. The determination of moisture content in the aggregate shall be carried out in accordance with code practice (V1-5-9) IS 2286 part III 1963. Due to variation in their moisture content suitable adjustment in the weight of aggregate should also be made.

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4.3.2.6 No substitution to materials used on the work or alteration in the established proportions except as permitted in 4.3.2 shall be made without additional tests show that the quality and strength of concrete are satisfactory.

4.3.2.7 Workability of the concrete should be checked at frequent interval the slump test or where facilities exists the compacting factor test conducted in accordance with code practice VI (5-10) may be adopted for this purpose.

4.3.2.8 A competent person should be employed whose duty will be to supervise all stages in the preparation of materials for nominal concrete mixes for ordinary concrete shall be in accordance with

Table-3.

4.3.3.1 Where it is considered not practicable to use controlled concrete ordinary concrete may be used for grades M100, M150, M200, M250. The proportions of materials for nominal concrete mixes for ordinary concrete shall be in accordance with Table-3

4.3.3.2 In proportioning concrete, the quantity of cement should be determined by weight. The quantities of the & coarse aggregates may be determined by volume but those should also preferably be determined by weight. In the later case the weight should be determined from the volume specified in Table 3 and the weight per litre of dry aggregate. If aggregate is moist and volume be taking is adopted allowances shall be made for bulking in accordance with code practice (VI-5. (9).

4.3.3.3 The water cement ratio shall not be more than these specified in Table 3.

The cement content of the concrete mix specified in Table 3 for any nominal mix may be increased if the quality of water in a mix has to be increased to overcome the difficulties of placement and compaction, so that the water cement ratio specified in Table 3 is not exceeded.

Note : 1 In the case of vibrated concrete; the limit specified may be suitably reduced to avoid aggregation.

Note : 2 The quantity of water used in the concrete mix for reinforced concrete work should be sufficient but should not be more than what is sufficient to produce concrete to adequate work ability for the purpose which will surround and properly grip, all the reinforcement work ability of the concrete should be controlled by maintaining a water cement ratio that found to give a concrete which is just sufficiently wet to be placed and compacted without difficulty with the means available.

4.3.3.4 Work ability of concrete should be controlled by direct management of water content, making allowances for any surface water in the fine and coarse aggregate; the slump test may be conducted in accordance with good practice (v1.5 (10)

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4.3.3.5 Allowance should be made for surface water present in the aggregate when cumulating the water content. Surface water shall be determinate by field methods in accordance with code practice (IV5 (9) In the absence of exact date, the amount of surface water may be estimate from the values given in table 4.

4.3.3.6 In ordinary concrete made in accordance with the proportions given for a particular grade does not yield the specified strength due to proper qualities for materials not being available and such concrete shall be classified as belonging to the appropriate lower grade.

Ordinary concrete proportional for a grade even in accordance with table 3 shall not however, be places in a higher grade on the ground that the test strength are higher than the minimum specified. No interpolation shall be permissible.4.4 Sample size and acceptance criteria.

4.4.1 All tests shall be carried out in accordance with code practice (VI-5 (4).

4.4.2 The number of test specimens required the frequency of sampling and the criteria for acceptance of a concrete as confirming to the specified grade shall be in accordance with Table 5 for both ordinary concrete and controlled concrete. No preliminary tests are however necessary in the case of ordinary concrete. ISI 199-1958. ,

Methods of sampling and analysis of concrete: ISI 2386 (part III) 1963 specific gravity density, voids absorption and bulking methods of test for aggregate for concrete.

ISI 2386/Methods of test for aggregates for concrete (Part III) 1963 specific gravity: density -voids, absorption and bulking.

ISI 516 - 1959- Methods of test for strength of concrete.

TABLE 1 STRENGTH REQUIREMENTS OF CONCRETE

(Clauses 4.2.2.1: and 4.2.2,2) (All values in Kg/Cm^2)

Compressive strength of 15cm cubes at 28 days after mixing

Grade of concrete	Preliminary. Test	Works Test.
	Min	Min
M100	135	100
M150	200	150
M200	260	200
M250	320	250
M300	380	300
M350 .	440 .	350
M400	500	400

Note : 1 Preliminary test : A test conducted in a laboratory on the trill Mix of concrete produced in the laboratory with the object of

a) Designing a concrete mix before the actual concreting operation starts .

b) Determining the adjustments required in the designed mix when there is a change in the materials used during the execution of work or

c) Verifying the strength of concrete mix.

Note: 2 Work test: A test conducted either in the field or in laboratory on the specimens made on the works out of the concrete being used on the work.

Note : 3 Size of cubes : In the working test, with the approval of the Engineer - in - charge 10cm cubes may be used in place of 15cm cubes provided in maximum nominal size of aggregate does not exceed 20mm. Even the use of 15cm cubes should normally be restricted to concrete having a maximum nominal size of aggregate not exceeding 40mm. Where concrete with aggregate larger than 40mm size is required to be tested. The size of cubes should be specified by the Engineer - in- charge keeping in view that generally the length of size of the cube should be about four times the maximum size of aggregate in the concrete constituting the cube specimen.

Note :4 Strength in relation to size of the cube: Where 10cm cubes are used, the values obtained from the tests on 10cm cubes shall be reduced to the extent established by comparative preliminary tests with 10 and 15cm cubes, or in the absence of such comparative tests by 10 percent of the value determined from the tests. In order to give the equivalent strength for 15cm cubes, when cubes larger than 15cm are adopted generally no modification is necessary unless otherwise specified by the Engineer - in - Charge.

Note: 5 Cylinder strength compressive strength test may with the approval of the Engineer in -Charge be conducted of 15cm diameter and 30cm cylinder in accordance with code practice (V1-5 (1) instead of the cube where cylinder strength figures are adopted the compressive strength figures given below shall be modified according to the formula. Minimum cylinder compressive strength required 0.8 compressive strength specified for 15cm cubes.

The Central Road Research institute, New Delhi carried out tests with a view to establishing a relation between water cement ratio and the compressive strength of concrete using ordinary Portland cement manufacture in the country conforming to accepted standard

(VI-5 (2)

As a result of these, it has been considered advisable to give graphs showing the relationships between the Compressive strength of Concrete mixes with sufficient water cement ratios and the 7 days compressive strength of cement tested in accordance with code practice VI 5(2) These graphs have been given in Appendix ' A'. They would be some assistance detailing the water cement ratio for the trial mix of concrete.

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OPTIONAL WORKS TEST REQUIREMENTS TO CONCRETE

Table .2. (Clauses 4.2.2.2(a) all values in kg/cm.

Grade of Concrete	Compressive Strength on 15cm cubes Min,7 Days	Modules rupture by beam test	
		At 72 +2 Hours	At 7 Days,
1	2	3	4
M100	70	12	17
M150	100	15	21
M200	135	17	24
M250 .	170.	19	27
M300	200	21	30
M350	235	23	32
M400	270	25	34

Note: Note 3 to 5 under Table 1 are also applicable to this table.

IS 510 - 1959 - Methods, of test or strength of concrete.

IS 261 - 1967 - Specification for ordinary rapid hardening and best Portland cement

CONCRETE MIX PROPORTIONS (CLAUSE 4.3.2.5)

TABLE.3.

Grade of concrete	Total quantity of dry aggregate by volume per 50kgs of cement to be taken as the sum of the individual volumes of fine and coarse aggregate	Proportion of fine aggregate to coarse aggregate	Quantity of water per 50KG of cement
1.	2	3	4
M10034	300	Litres generally 1:2 for fine aggregate to coarse aggregate	34
M150	220	By volume but subject to an upper limit of 1 :11/2 and of 1:3 lower limit	32
M200	160	.	30
M250	100	.	27

Note: It may be noted for general guidance that M 100, M 150, M 200 and M 250 of ordinary Concrete approximately to 1:3:6, 1:2:4 and 1:1:2 nominal mixes of ordinary concrete currently used in the country. The preparation of the aggregates should be adjusted from upper limit to lower progressively as the grading of the aggregate becomes finer and the maximum size of coarse aggregate becomes larger. Example:- For an average grading of fine aggregate i.e., Zone II in accordance with code practice VI.5 (1). The proportion shall be 1:1 1/2, 1:2 and 1:3 maximum size of aggregate 10mm, 20mm, 30mm respectively.

SURFACE WATER CARRIED BY AVERAGE AGGREGATE.

TABLE .4.

Aggregate	Approximate quantity of surface water.
Very wet sand	120
moderate wet sand	80
Moist Sand.	40
Moist gravel or crushed work.	20 to 40

Coarse aggregate less the water it will carry

LS.383 1963 Specification for coarse and fine aggregate for natural source for concrete.

L.S.516- 1959 Specification for nominal and manufacture aggregate for use in mass concrete

GST REGISTRATION & DEDUCTION
OF GST FROM BILLS

The tenderers should be required to indicate their registration number under the GST Act in the tender form and produce GST clearance certificate issued by the Commercial Tax Department before final settlement of bills.

As per GST rules in force TDS deducted from bills.

Contractor:

GENERAL MANAGER (TECHNICAL)
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Chennai-2

CONDITION FOR SUPPLY FOR CEMENT AND STEEL

Clause / Conditions to be included in the contract and agreement.

A) CEMENT

- i) To be procured from authorised stockiest and dealers with details of printing in the cement bag as approved by ISI (Pozzolana Cement printed in red colour and other cement bags including OPC in black colour).
 - ii) The entire cement quality should be supplied in paper bags only at the site of work.
 - iii) Test Certificate to be obtained from Government Institutions and Quasi- Government Institutions only by mentioning the name of work and period of contract and should not be from private institutions.
 - iv) The minimum content of cement as specified in IS: 450 -1978 Table -19 according to conditions stipulated against each is to be ensured.
 - v) Volume batch: For nominal mix of mortar and concrete special cement such as, as specified in IS : 56--1978 Table No.3.
 - vi) High strength cement 53 Grade and Coastal IS :12269 - 1987 and IS : 8112 -: 1989 Cement Sulphate Resisting Cement IS : 12230 - 1988).
 - vii) (a) Low Heat Portland cement (IS: 12600 - 1989)
(b) Rapid Hardening Cement (IS: 8041 -1990)
(c) Hydrophobic Cement (IS: 8043 - 1990)
(d) White Cement (IS : 8042 - 1989)
(e) Portland Blast Furnace Slag Cement (IS: 455 - 1989)
(f) Portland Pozzolana Cement (IS: 1489-1991)
(g) Masonry Cement (IS: 3466 - 1989)
(h) Super Sulphated Cement (IS: 6909 - 1990).
- Can be wherever required after obtaining specific approval of the DEPUTY MANAGER (CIVIL), concerned according to the value of work.

B).STEEL .

- i) To be procured from authorised dealers and Test Certificate for strength as well as for unit weight to be produced before use in order to ascertain the size of rod and quantum of steel actually used in the work.
- ii) Excessively rusted steel rods should be rejected.
- iii) To be delivered at site of work and to be under the custody of the Contractor only.
- iv) Use to steel rods shall confirm to the structural designs approved for the work.
 - v) Steel supplied shall confirm to standard specifications specified in Table 16 of IS : 456-1978 as detailed below:
 - (a) Mild Steel - Grade of IS : 432 Part 1/1996
 - (b) HYSD bars - IS: 1786-1985
 - (c) Cold Worked -IS : 786 -1976 (Grade Fe 415)

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vi) Steel manufactured from the waste steel through the process re-rolling shall be rejected since guarantee by the strength and quality is not certified by the authorized dealer or by the manufacturers.

vii) (a) High strength steel such as (Fe 500) Torkadi bars (Fe500) cold drawn confirming to IS : 17861985 and

(b) Hard drawn welded wired Fabric confirming to IS : 1566-1982 can also be used in the work after obtaining specific approval of the DEPUTY MANAGER (CIVIL)Concerned according to the contract value.

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Metropolitan Transport Corporation (Chennai) Ltd.
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SPECIAL CONDITION FOR THE CONCRETE PAVEMENT
Preparation and Preliminary finishing of the base.

The base or that portion of the yard upon which the concrete is to be placed shall be constructed to have as nearly as practicable a uniform bearing power throughout its entire width and to conform to the line grade and cross section shown on the plans. This shall be accomplished by scarifying the existing surface adding necessary materials and consolidating. The surface shall be finished to such accuracy that when tested by means of a 10 feet straight edge it shall vary no where by more than 1/8" from the working edge. Such preliminary finishing shall extend to atleast one foot on each side beyond the net width of the finished pavement. Where the existing surface is to be widened every precaution shall be taken to ensure that there will be no differential settlement between the old surface and the newly added portions.

After preliminary finishing of base, if vehicles are permitted no weak spots shall be noticed. Any weak spots exposed under the stress of traffic shall be corrected by proper pattern of work.

Prior to depositing of concrete on the base, it shall be checked that there are no isolated patches of irregular surface. Isolated patches of irregular surface shall be treated as follows at no extra compensation.

- a) Depressions and low spots not more than 1/2" shall be filled with concrete integral with pavement with no additional compensation allowed for the extra quantities of concrete allowed.
- b) Depressions more than 1/2" shall be made up by addition of base materials compacted by means of a tamper to the required density and texture or with concrete 1:4:8 nominal mix, using coarse aggregate of maximum size not exceeding the depth of depression, thoroughly rammed and finished to the required contour.
- c) High places shall be scarified one depth (about 2 inches) loose materials removed and the area made upto contour by means of concrete as above.
- d) Before replacing concrete, the base shall be sprinkled with water and kept moist to prevent the absorption of water from the concrete. If required by the Engineer, it shall be saturated with water and previous night or not less than six hours previous to the placing of concrete. If it subsequently becomes too dry, the sub grade shall be spinkled but the method of sprinkling shall not be such as to form mud or pools of water. No concrete shall be placed around man holes or other structures until they have been brought to the required grade and alignment.

PLACING OF CONCRETE:

The concrete shall be distributed to such depth, above the base, that when consolidated and obtained at all points and the surface will not at any point be below the grade specified for the finished surface.

The concrete shall be deposited on the base in such a manner as to require as little rehandling as possible. It shall be thoroughly spaded against and along the faces of the forms, spreading and leveling shall be done with travels not with rakes. Workmen shall not be allowed to walk on the freshly laid concrete.

Placing shall be continuous between transverse joints without the use of intermediate bulk heads. On steep gradients placing shall proceed progressively from the lower to the higher reaches.

Tolerance for the finished surface 3mm in 3 meters. Side forms should be removed not less than 24 hours after placing concrete.

The edges of the pavement shall be rounded at all joints to a radius of 3/8" inch.

Expansion joints shall be formed during the constructions to the full depth and width of the slab. The joints shall be filled with an approved filler at no extra cost which shall extend from the under side of the slab to the top surface to conform the cross section of the pavement.

Contraction and Construction joints will have to be provided wherever necessary at no extra cost.

Proper wire brushing should be carried out for the existing sub-grade removing all loose materials found therein.

SPECIAL CONDITION

The work men engaged over the height of 10'-0" height and above are required to wear Safety Belt for the Personal Safety of the Work men. This should be ensured by the Contractor himself.

The Metropolitan Transport Corporation will not be liable for the injury or loss caused to the work men.

sd/-

DEPUTY MANAGER (CIVIL).

Approximate Schedule of items of work to accompany the Tender for Construction of new additional bus bays with shelter, modern toilet complex and provision of additional LED light facilities at J.J.Nagar West Bus Terminus.

S.No.	Unit	Description of Work	TNDSS	Rate	Unit	Amount
1	4.00 Nos	Labour charges for cleaning the site			1No (one number only)	
2	12.44 M3	Earth work excavation for loose soil Red earth and gravel foundation in all soils except hard rock requiring blasting clearing and leveling up site but including shoring shuttering and baling out water if found necessary excavated earth wherever necessary, refilling the sides of foundation with excavated earths depositing the surplus earth with initial lead and left clearing and leveling the site etc., complete.	23		1m3(one cubic meter only)	
3	3.34 m3	Supplying and filling in foundation and basement with river sand/filling sand in layers of not more than 15cm thick well watered, rammed and consolidated etc., complete as per standard specification.	24&25		1m3(one cubic meter only)	
4	137.49 m3	Cement concrete 1:5:10 (one cement five sand and ten broken Machine crushed stone jelly) using HBG Machine creased Machine crushed stone jelly of size 40mm gauge for founding and basement including de-watering if found necessary and laid in layers of not more than 15cms thick etc., complete complying with standard specification and as directed by the departmental officers.	28&29		1m3(one cubic meter only)	

5	213.46	m3	Supplying and filling of well gravel by lorry in basement filling including conveyance loading and unloading charges and all other incidental charges filling laying watering and consolidation etc., complete complying with standard specifications and as directed by the Departmental Officers			1m3(one cubic meter only)	
6	3327.37	Kg	Supplying, fabricating and placing in position Mild Steel / Ribbed Tor Steel grills for all RCC works as per design given including cost of steel and G.I. binding wire in all floors etc. complete complying with standard specification. (Contractor has to make his own arrangements for the supply of steel and binding wire)	111		1kg (one kilo gram only)	
7	35734.90	Kg	Supplying, fabricating and erection of MS structural using MS members I section channel, angle, plate flat with necessary bolt and nuts including charges for welding, curing etc., and one coat red oxide painting etc., complete.	111		1kg (one kilo gram only)	
8	54.51	m2	Supplying and erecting centering for sides and soffits including necessary supports and strutting up to 3.29 M height for plane surfaces as detailed below in all floors with all cross bracings using Mild Steel sheets of size 90 x 60 cm and 10 BG stiffened with welded Mild Steel angle of size 25mm x 25mm x 3 mm for boarding laid over silver oak joists of size 10cm x 6.50 cm spaced at about 90 cm centre to centre and supported by casurina props of 10cm to 13 cm dia spaced at not more than 75 cm centre to centre etc. complete complying with the standard specification. (Payment for centering shall be given after the concrete is laid)	111		1m2(one square meter only)	

9			Reinforced cement concrete 1:2:4 (one cement two sand and four broken Machine crushed stone jelly) using 20mm gauge hard broken granite jelly for all RCC works such as slabs, beams, footings, staircase waist slabs, steps, landing beams fins, boxing, vertical louver, drops, window sill slabs projection and other similar works including laying curing etc., complete complying with standard specification and as directed by the departmental officers.				
A	11.08	M3	foundation and basement	30		1m3(one cubic meter only)	
B	3.32	M3	ground floor up to 4.50 m height				
10			Providing two legged scaffolding using 15 cm dia casuarinas post of 4 M over all length (3 M Height + 0.5 M Projection + 0.5 M into the Ground) the distance between the two rows being 1.25 M and the spacing of posts being 2.0 M in both the rows with two horizontal posts with 0.5 M. Overlap on either side and braces at 2.0 M Center to center including longitudinal and transverse middle braces to step up and providing a platform with country wood planks of 40 mm thick and 1 M width, etc. in a complete from using coil and nails.				
A	100.00	Rm	for initial height of 3m and length of 1M			1Rm (1running meter only)	
B	100.00	Rm	for every additional height of 2.50 M height				

11	1040.00	m2	<p>Supplying and fixing roofing sheet Alu-zinc is a aluminium-zinc coated steel sheet that can be used up to corrosive class C3. The coating alloy consists of 1,6% silica, 43,4% zinc, 55% aluminium, The name AZ150 indicates the coat weight of 150 g/m2 per double side The surface has been treated with SPT (Surface Protection Treatment) to prevent stains during handling and to ease shaping. quality requested AZ150/550MPA. and 0.50mm Thickness using corrugated or traffold with arch are semi arch types and bolt, nut, screws, including charges Conveyance ,loading & unloading bending, cutting to the required size and shape etc., complete.</p>			1m2(one square meter only)	
12	800.00	m2	<p>Painting new iron works such as steel doors, windows, ventilators, window bars, balustrades etc., with two coats of best approved first quality and colour of synthetic enamel paint over the existing red oxide priming coat in all floors including cost of priming coat etc., complete complying with standard specification. (The make, quality and colour of paint should be got approved by the Executive Engineer before use on works.)</p>			1m2(one square meter only)	
13	454.07	m3	<p>Providing granular sub base to required thickness including cost and conveyance of all materials from approval quarry and consolidated by power roller as per clause 401 of MORTH Rev--5 specification Rate for 1 cum</p>			1m3(one cubic meter only)	

14	158.05	m3	plain Cement concrete 1:2:4 (One cement Two sand and four broken Machine crushed stone jelly) using HBG Machine crushed stone jelly of size 20mm gauge for founding and basement including de- watering if found necessary and laid in layers of not more than 15cms thick etc., complete complying with standard specification and as directed by the departmental officers. S I No 127. TNBP No 28	30		1m3(one cubic meter only)	
15	9.64	m2	Supplying and fixing the Bitumen felt pad 15 mm thick pad etc., complete			1m2(one square meter only)	
16	8.11	m3	Brick Work in cement mortar 1:5 (one of cement and five of sand) in foundations walls using second class ground moulded chamber burnt bricks of size 9"X4 3/8"X2 3/4 etc., complete complying with standard specifications and drawings and as directed by departmental Engineers.	31C		1m3(one cubic meter only)	
17	5.19	m3	Brick Work in cement mortar 1:5 (one of cement and five of sand) in superstructure walls using second class ground moulded chamber burnt bricks of size 9"X4 3/8"X2 3/4 etc., complete complying with standard specifications and drawings and as directed by departmental Engineers.	31C		1m3(one cubic meter only)	
18	14.50	m2	Brick partition wall in CM 1:3 (One of cement and three of sand) 11.50CM thickness using Second class chamber burnt bricks of size 9"x 4 3/8"x2 3/4" including both side plastering with CM 1:5 12mm thick and using hoop iron with reinforcement if found necessary. The loop iron shall be	31C		1m2(one square meter only)	

			should be supplied by department at free of cost. (TNBP No. 31 - C)			
19	241.50	m2	Plastering the walls with Cement Mortar 1:5 20 mm thick using the river sand including curing and finishing neatly complying with standard specification and as directed by the departmental officers etc. complete. S.I. 311-- TNBP No. 55& 56	56&57		1m2(one square meter only)
20	25.00	m2	Plastering with cement mortar 1:3 (one cement and three sand) 20mm thick with fine river sand flooring including curing, neat finishing, etc., complete complying with standard specification and as directed by the Departmental officers. S.I. 309. TNBP No. 55& 56	56&57		1m2(one square meter only)
21	153.00	m2	Painting the walls with Two coats with first class quality Plastic Emulsion paint of approved colour over a priming coat including thorough scraping, clean removal of dirt. The rate includes cost of brushes, sand paper, plaster of parries, putty wherever required and neat finishing etc., complete complying with standard specification and as directed by the Departmental Officer (the colour and quality should be got approved by the Executive Engineer before use) S I No 358	63,65A& 111		1m2(one square meter only)

22	107.00	m2	Repaving the floor with plain ceramic tiles of approved quality, colour and design joint free of size 305*305*6mm thick of approved make. quality and colour in all floors over a base layer of cement mortar 1:3(one cement three sand)20mm thick and laid straight alignment and pointing neatly with colour cement at the rate of 0.40kg/m2 laid without any air gap in the tiles neatly and fixing in position as per standard specification and as directed by the departmental officers. The colour & quality of tiles should be got approved by the Executive Engineer before use on Work.	39A		1m2(one square meter only)	
23	45.00	m2	dodooing the wall with glazed tiles of printed design tiles of approved quality, colour and design joint free of size 150*150*6mm thick of approved make. quality and colour in all floors over a base layer of cement mortar 1:3(one cement three sand)20mm thick and laid straight alignment and pointing neatly with colour cement at the rate of 0.40kg/m2 laid without any air gap in the tiles neatly and fixing in position as per standard specification and as directed by the departmental officers. The colour & quality of tiles should be got approved by the Executive Engineer before use on Work.	39A		1m2(one square meter only)	
24	3.00	m2	pvc panneld door shutters hollow type -200mm x 20mm panals with 1mm wall thickness and styles and rails of suitable size with 2mm wall thickness suitability reinforced using MS Angle/ flat including cost of nessary Aluminium hinges and other furnitures fittings	111		1m2(one square meter only)	

25	0.25	m3	Supplying and fixing country wood wrought and put up for frames of doors, windows and ventilators and any other similar joinery works including cost of country wood scantlings and labour charges for manufacturing the frames and fixing hold fasts and fixing in position etc. for all lengths as per architect designs.	72		1m3(one cubic meter only)	
26	3.80	m2	Supplying and fixing in position of Medium density fiber (MDF) board Exterior grade plain with teak wook external lipping around with kiln dried soft wood 35mm including cost of all furniture fittings necessary tower bolts, bolt hinges, aldop etc., complete as directed during execution.			1m2(one square meter only)	
27	2.00	Nos	Supplying and fixing in position Indian water closet Oriya type of size 580x440mm white glazed earthen ware of approved quality with 'P' trap or 'S' trap conforming to IS: 2556-part XII with sand cushion and forming flooring all-round the closet using 40mm broken brick jelly in lime concrete 1:2:5(one part of lime, two parts of sand and five parts of brick jelly) 100mm thick and finishing the top to required slope and including giving necessary connection to cast iron soil pipes by dismantling brick masonry, reinforced cement concrete roof/ floor slab and making good the dismantled portion to original condition without leakage etc. complete complying with standard specification and as directed by the departmental officers (The water closet should be got approved by the Executive Engineer before use on work.)	111		1No (one number only)	

28	1.00	Nos	<p>Supplying and fixing in position White / Colour Glazed Model Floor Mounted European Water Closet of best quality and approved make with 100mm "P" or "S" trap connecting with CI pipe of 100mm dia / PVC pipe of 110mm dia, double flapped rigid PVC black seat and seat cover with CP brass hinges including cost of white cement, cement for packing, spun yarn, teak wood plugs, brass screws, etc., including supplying and fixing 10 litres capacity PVC / 12.5 litres capacity porcelin low level flushing tank with a pair of CI brackets, etc., complete with all fittings, such as, 15mm brass ball valve with polythene float with brass handle, union coupling connected by means of 40mm white PVC flush hand using indian adopter joint including all internal fittings, such as, 15mm bras connections, 15mm GM wheel valve, 15mm brass nipple (2 Nos.), 15mm nylon connection, TW plugs, screws and also giving necessary connection to the PVC pipe and painting the CI brackets with 2 coats of approved paint over one coat of red oxide primer, dismantling the masonry and re-doing the dismantled masonry to original condition, etc., complete complying with standard specifications. (The EWC and flushing tank with all accessories should be got approved by the Executive Engineer before use on works)</p>	111		1No (one number only)	
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29	3.00	Nos	Supplying and fixing in position of Indian make white glazed earthen ware lipped mouth flat back urinal of best approved quality with GI connection of suitable length 32mm bell mouth PVC connection 15mm dia GM wheel wall fixing the urinal in the wall position with necessary TW plug, clamps, screws, shellac etc., including the dismantling the masonry if necessary and redoing the same to its original condition fixing the 15mm dia GI pipe and wheel wall painting the pipe two coats of approved colour of synthetic enamel paint over one coat of primer and etc., and checked without leakage etc complete complying with standard specifications and as directed by Departmental Officers.	111		1No (one number only)	
30	4.00	Nos	Supplying and fixing PVC Screw Down Tap Heavy Type 15mm dia	111		1No (one number only)	
31	4.00	No	supply stone ware gully trap of 150mm x 75mm with pvc nahini/floor trap with pvc grating	111		1No (one number only)	
			Basic Total				
			CGST 9%				
			SGST 9%				
						Total	

Sd/---
DEPUTY MANAGER (CIVIL).

NOTE:
The size of various structural members are to be designed by the tenderer. The design is to be got approved by the Corporation before execution.

METROPOLITAN TRANSPORT CORPORATION (CHENNAI) LIMITED.

LEAD STATEMENT North Zone

Sl. No.	Name of Materials	Unit	Lead in KM
1	Sand for Mortar	M3	63
2	Sand for Filling	M3	63
3	40mm HB Jelly	M3	24
4	20mm HB Jelly	M3	24
5	10 to 12mm HB Jelly	M3	24
6	6mm HB Jelly	M3	24
7	3mm HB Jelly	M3	24
8	Gravel	M3	11
9	Brick Jelly 20mm	M3	12
10	Brick Jelly 40mm	M3	12
11	2nd class ground moulded chamber burnt Brick 9" x 4 3/8" x 2 3/4"	1000 NO'S	12
12	Cement	MT	0
13	Steel	MT	0
14	Pressed tiles	1000 NO'S	12

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DEPUTY MANAGER (CIVIL).