TENDER DOCUMENT

TENDER No: DLI / CON / 686 A & B / 369

FOR

Construction of G+7 RCC Framed Structure tenements buildings (5 buildings from foundations & above and 3 buildings from plinth level & above ) in Chennai near Perumbakkam Phase- II (Pkg 5A)

VOLUME – II

Additional Conditions of Contract

&

Technical Specifications

&

Tender Drawings
ADDITIONAL CONDITIONS OF CONTRACT

The following Additional Conditions of Contract shall be read in conjunction with General Conditions of Contract. If there are any provisions in these Additional Conditions of Contract which are at variance with the provision of General Conditions of Contract, then provisions in this Additional Conditions of Contract shall take precedence over General Conditions of Contract:

1. Scope of Work: The brief scope of work for this tender shall mainly include (but not limited to) civil works for construction of 1116 tenements which consists of Internal water supply, sanitary and electrification works etc. (hereinafter referred to as “Works”) as per Technical specifications, Designs, Drawings, Priced BOQ, Instructions and Terms and Conditions given in Tender Documents of the Client / Client’s Consultant and its amendments / clarifications, etc. received from Client from time to time.

2. Commencement and Completion of Project: The date of start of contract shall be reckoned within 10 days from the date of issue of letter / telegram / FAX of Intent of Tender and the total work has to be completed in– 12 (Twelve) Months in accordance with table of milestone as given below:

<table>
<thead>
<tr>
<th>Period after date of Commencement</th>
<th>Percentage of work completed (Based on contract lump-sum amount)</th>
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<tbody>
<tr>
<td>1st month</td>
<td>25%</td>
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<tr>
<td>2nd month</td>
<td>35%</td>
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<td>3rd month</td>
<td>40%</td>
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<td>11th month</td>
<td>90%</td>
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<tr>
<td>12th month</td>
<td>100%</td>
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3. Taxes and Duties:

All Taxes, Duties including service tax as applicable, VAT, Cess, Levies, Octroi, Entry Tax, Royalties, Works Contract Tax, Turnover Tax, Labour Welfare Cess and other expenses etc. for the “Works” are included in the sub-contract price. The payment of total Works contract Tax, VAT, Turnover Tax, service tax, Labour welfare cess etc. as applicable on the Party’s Contract value along with the registration shall be responsibility of the PARTY and is included in the Sub-Contract price of the PARTY. The relevant and required documents in respect of VAT assessment / service tax assessment for EPI for availing exemption / deductions by EPI are to be submitted along with each RA bill failing which the VAT Tax levied / suffered by EPI is to be borne by the contractor and will be recovered from the forthcoming bills. The bills are to be submitted in the format required under the respective tax acts indicating input tax.

4. All men, materials except item mentioned in Annexure – D, machinery, tools and plants, infra-structure, resources etc., as required for execution of “Works” shall be provided and arranged by PARTY for their portion of work. The amount/rate quoted in their offer by PARTY to EPI includes all charges, all direct and indirect cost of works, materials,
labour, plant & equipment, all taxes, duties, levies, royalties, octroi, entry tax, VAT, WCT/TOT, service tax, labour welfare cess etc., all transportation charges including for cartage of issue material, electricity and water charges, site offices expenses, labour camp, bank guarantee charges, insurance charges, EPF/CPF/ Statutory contributions, preparation of all required design & detailed engineering and all required drawings etc., other expenses whatsoever, incurred on execution, completion and maintenance of the “Works” as per ‘Tender Documents’ and their own overheads and profit etc. PARTY shall comply with all the requirements laid down as per ‘Tender Documents’ as per terms, conditions, specifications, drawings, documents etc. given in the ‘Tender Documents’ for the completion, handing over, maintenance period etc. for the project.

Cement and reinforcement steel as listed in Annexure – D shall be procured by EPI directly from the Manufacturer / Dealer and shall be issued to the contractor and the actual cost of material shall be recovered from the next RA Bills of contractor. Wastage in any form, if any shall be to Contractor’s account and EPI will make recovery against all such excess consumption which will be calculated on theoretical quantities only. Permissible wastage (for reconciliation purpose only) of these materials calculated on theoretical quantities shall be recovered at actual cost / rates of procurement by EPI and any wastage beyond this permissible limit shall be recovered at double the market rates. If there is a contradiction between CPWD and EPI norms, EPI’s condition will prevail. Unloading, proper storage of all the materials procured by EPI shall be the responsibility of the contractor. In case contractor fails to take action for unloading or proper storage of material brought to site by EPI, the same shall be arranged by EPI at the risk and cost of contractor. In case there is delay in supply of material by EPI, the contractor will have no claim on its account. In case of non-supply of materials by EPI due to any reason, the party may be permitted to procure the materials with the prior written approval from EPI without any claim on EPI.

The contractor shall submit RA Bills / Pre-Final / Final Bill along with the reconciliation statement of materials and no payment shall be released to the contractor in absence of such documents. Excess consumption shall be recovered at the rates mentioned elsewhere in the contract.

Consumption of materials shall be calculated as per the provision of contract / specification / standards and the contractor shall solely be responsible for any additional or less consumption of materials. In case material is consumed less than that calculated as per the co-efficient of consumption as per the contract / relevant specification / CPWD Norms, the contractor shall identify the portion of work / whole work where material consumed is less than that specified above and dismantle such work and redo the same at his own cost.

In case contractor fails to identify the work where material has been consumed less than that specified in the contract / relevant specification / CPWD Norms, EPI/Client shall take decision to identify the portion of work / whole work and it shall be the binding on the contractor to dismantle and redo the work as identified by EPI/Client. Failure on the part of contractor to take action in this regard, EPI/Client shall take action to dismantle such work and redo the same at the risk and cost of contractor.

Requisition for issue of material to be submitted to EPI atleast 15 (fifteen) days in advance and the contractor shall make close co-ordination with EPI officials in this regard till material is received at site. Non-issuance of material by EPI shall not be the reason for extension of time.

Empty cement bags shall be returned by the contractor to EPI on monthly basis for reconciliation. In case cement bags are not returned by the Contractor, recoveries shall
be made @ Rs.2/- (Rupees Two only) per bag from the RA bills of contractor for the quantity not returned by them.

5. Insurance charges for insurance to be taken by EPI for the project as per contract with Client shall be borne by PARTY in proportion to value amended work. The PARTY shall take insurance cover at its own cost towards Workman Compensation Act for its own workers, employees and for the Plant & Equipment deployed by the PARTY at the project site and shall furnish documentary proof of the same to EPI failing which no payments shall be released to the PARTY against work done. The PARTY shall assist EPI in follow up with insurance company in case of any claim related to PARTY’s scope of work. EPI is not liable to pay any claim of the PARTY if it is not paid by insurance company due to any reasons whatsoever.

6. In the event of award of “Works”, PARTY shall submit to EPI, Cross Demand Draft from a Nationalised Bank / Scheduled Bank towards Security Deposit cum performance guarantee @ 2% (Two Percent Only) of the contract value of the accepted tender within 15 days from the date of LOI which shall be valid up to the end of defect liability period failing which EPI at his discretion may revoke the LOI & forfeit the EMD furnished along with tender.

7. All the cost of travel, lodging, boarding etc. towards visits by Client, their Consultant etc. to the manufacturing units/works for the inspection of materials, equipment etc. under the scope of work of PARTY shall be borne by the PARTY if applicable under the contract between EPI and Client.

8. The PARTY shall provide and maintain facilities as per Annexure – A for exclusive use of EPI. These facilities and vehicles shall be the property of the PARTY at the end of the contract.

9. Payments as and when received by EPI from the Client for PARTY’s portion of work shall be released to PARTY within seven working days of its receipt by EPI including mobilization advance etc. if any, and after deducting any recoveries towards facilities as given in Annexure – A and other recoveries. Secured advance if provided as per terms of the contract of EPI with client and if paid by the Client, shall also be paid to the PARTY within seven working days of its receipt from Client without any deduction towards EPI’s markup. Recovery / Adjustment of the Mobilization advance and secured advance shall be as per the terms and conditions of the contract.

The final bill payment to the PARTY shall be released only after receipt of corresponding payment from client and when PARTY submits Sales Tax /VAT clearance certificates, EPF clearance certificate, all other clearances, approvals, certificates etc. as per agreement of EPI with the client for the “Works” and as per statutory requirement.

The party shall have no claim on EPI in case the payments are delayed by the client due to any reason whatsoever.

10. Escalation, if any, payable under the main contract with Client for PARTY’s portion of work shall be released to PARTY by EPI proportionately as and when paid by the Client be passed on to the contractor proportionate basis. Otherwise, the prices of PARTY shall be firm and fixed till the completion, handing over, Defect liability period, etc. of the contract. Payment of all extra / substituted / variation items etc. related to PARTY’s scope of work admitted and paid by Client, if any, shall also be made by EPI to PARTY proportionately. Any claim by PARTY, if not paid by the Client, whatsoever be the reason shall not be admissible against
11. Mobilization Advance, if applicable will be paid as per memorandum and terms of the contract. Interest on mobilization advance shall be at the rate of SBI PLR+2%. This shall also be applicable in clause 8.4 of GCC of EPI.

12. The PARTY shall be fully responsible to complete the “Works” in workmen like manner to the satisfaction of Client and EPI by maintaining high standard of quality and precision as per ‘Tender documents’, Agreements, Terms & Conditions, Specifications, Drawings etc., within the contractual completion period and within their quoted rates/amount. In case Client reduces or increases scope of work related to PARTY’s portion of work, the same shall be binding on PARTY and the PARTY has to execute the same at rates paid by the Client less EPI’s markup.

13. In case PARTY is awarded the “Works” and fails to execute the same as per agreed schedule of progress of work and as per specified quality and/or lags behind in activities required for timely completion of “Works”, as determined by EPI/Client, then EPI shall give 15 days written notice to PARTY to achieve the specified quality and/or to deploy adequate resources to the satisfaction of EPI, for timely completion of “Works”. Upon expiry of the notice period, if PARTY fails to achieve specified quality and/or fails to take action for timely completion of “Works”, then EPI shall have option to withdraw the remaining work partly or in full from PARTY and get the same executed at the risk and cost of the PARTY from alternative agency/agencies besides encashment of the guarantees submitted by the PARTY to EPI. The decision of EPI in this regard shall be final and binding on the PARTY.

14. The PARTY shall post adequate competent engineers and supervisory staff at site for day-to-day execution and supervision of its works etc. during the entire duration of the contract including maintenance/defect liability period. The minimum number and level of engineers, supervisors and other personnel to be deployed by the PARTY should be as directed by EPI/Client (refer client condition). In case the PARTY fails to deploy adequate number of personnel at site/office, EPI after giving seven days notice shall engage the required personnel solely at the risk and cost of the PARTY and debit the cost of the same to the account of PARTY. EPI shall exercise overall management, monitoring and coordination of project. EPI shall not post any staff during maintenance/defect liability period for which the PARTY shall make suitable arrangement to the satisfaction of EPI/Client.

15. In case the project execution is delayed beyond the contractual scheduled completion period due to reason attributable to the party, the staff and site office expenses of EPI for extended period shall be paid by the PARTY to EPI at the rate of Rs.1,00,000/- (Rupees One Lakh only) per month. This shall be in addition to the facilities provided by the PARTY to EPI and the Liquidated Damages/Compensation for delay/ Penalties etc. if any, levied by Client. The decision of EPI in this regard shall be final & binding on the party.

16. The PARTY shall be responsible for timely completion of the “Works” within the contractual completion period. Total Liquidated Damages/Compensation for delay, if any imposed/deducted from EPI’s bills by Client shall be recovered from PARTY’s bills or other dues.

17. The PARTY should have/ shall obtain EPF Code number, CST-TIN, VAT-TIN/Sales tax on Works contract number, Service tax registration number, etc. and shall be responsible for depositing EPF subscription and contribution for labour and staff employed by it on the “Works” and Service tax, other taxes, duties and dues etc. as per statutory requirements and documentary evidence of same shall be provided to EPI. The PARTY shall also be responsible for labour welfare and for arranging labour and other licenses/
permits/clearances etc. for the project at their own cost. The PARTY shall comply with all the requirements as per labour laws/acts. All the records in this regard shall be maintained by PARTY as per statutory requirements and rules and shall be produced by the PARTY on demand if required.

18. The PARTY shall be responsible for obtaining all approvals from Client with regard to quality of materials & workmanship and measurements etc. for their portion of work. All such approvals shall be in the name and title of EPI. The PARTY shall be responsible for reconciliation of issued material with Client/EPI, if any, and PARTY shall make arrangements for safe up keeping/custody of the material and final reconciliation is also to be done by the PARTY. In case there is any shortfall of any issued items during reconciliation, recovery at double the cost of materials prevailing at that time of recovery shall be made from the PARTY’s due payment.

19. The PARTY will not deal directly with Client and all the correspondence in matters regarding bills, claims, interpretation of the specifications, conditions and all matters related to the contract with Client, Client’s Consultants, all other agencies including Government and Statutory bodies etc. shall be done through EPI only. PARTY shall prepare and submit expeditiously all bills, claims, details, clarifications, documents, information, etc. as required by EPI/Client for proper execution and successful completion of the “Works”.

20. Issues related to interpretation and claims, if any, related to PARTY’s scope of work, arising out of contract between EPI and Client shall be referred with full justification by PARTY to EPI for settlement with Client including arbitration with Client, if inescapable, and outcome of such a settlement shall be binding on PARTY. EPI at its option may associate the PARTY in the above process of settlement for PARTY's portion of work. The cost & expenses on arbitration with Client shall be shared by EPI and PARTY in proportion of PARTY's offer and EPI's mark up towards its overheads & profits. In case the award/settlement with the Client is in favour of EPI, ninety percent of the award/settlement amount shall be shared between EPI and PARTY in proportion of PARTY’s contract price with EPI and EPI's mark up towards its overheads & profits. The balance ten percent of the award/settlement amount shall be retained by EPI towards its administrative charges. In case the award/settlement is against EPI, the entire damages/counterclaims imposed, if any, shall be borne by PARTY alone and the PARTY shall have no claim whatsoever against, EPI in such a settlement. Further, EPI shall have no liability towards any claim of the PARTY, which are not paid by the Client.

21. If desired by EPI, PARTY shall be available/associate with EPI in meetings/negotiations with EPI/Client for its portion of work. PARTY shall furnish all information and clarifications as and when required by EPI/Client. The PARTY shall abide by any modifications/changes etc. in tender prices, terms & conditions for its portion of work, agreed by it during negotiations with Client/EPI. Each party shall bear its own expenses for these purposes.

22. In case of non-approval of PARTY’s association for the Project by the Client and/or by the Corporate office of EPI due to any reasons whatsoever at any stage of the “Works”, the PARTY shall have no claim on EPI.

23. Income tax shall be deducted as per the prevailing rate of tax as applicable.

24. The party shall plan and execute the “Work” in his scope of work in such a manner that the other works, connected with the “Works” of the party, but not included in Party’s scope of work do not get affected/delayed.
25. The PARTY shall deploy sufficient plant & equipment of the required capacity and in good working condition for completion of the works in stipulated time with required quality. The equipment should either be owned by the PARTY or hired/leased. The deployment of equipment by PARTY shall be as decided by EPI and the same shall not be less than the minimum deployment stipulated by the Client, if any, for execution of "Works" and as per schedule agreed with EPI. The PARTY shall make arrangement for regular maintenance including preventive and breakdown maintenance and maintain stock of essential spares at site/near to site so as to ensure minimum breakdown time of equipment. The equipment once brought to site shall not be allowed to be removed without the consent of EPI. In case the PARTY fails to deploy sufficient equipment to the satisfaction of EPI or in case of prolonged breakdown of equipment, EPI at its sole discretion shall arrange the required equipment and debit all the related costs including ten percent overheads of EPI and shall recover the same from the due payments of PARTY, including from its bank guarantees available with EPI.

26. PARTY shall ensure compliance with all Central, State and Local Laws, Rules, Regulations etc. as applicable or may be applicable during the course of execution, maintenance etc. of the "Works" and shall indemnify EPI against any claim or damages whatsoever on such accounts. The PARTY shall keep EPI indemnified at all times against infringement of any Patent or Intellectual Property rights.

27. EPI is an ISO-9001 and ISO-14001 Company. The conditions of the ISO as applicable should be followed by the PARTY for implementation & maintaining the established procedures of EPI for this purpose. Following documents have been provided by EPI to PARTY & PARTY confirms receipt of the same:

   a. Quality, Environmental, OH & safety policy
   b. Environmental, Objectives & Targets
   c. Operational control – Noise
   d. Operational control – wastage
   e. Operational control – energy
   f. Operational control – Deforestation
   g. Operational control – Plantation of trees
   h. OH & S. management objects & targets

28. The contractor shall make necessary safety arrangements at site including as mentioned in GCC and indemnify EPI against any consequence of accident at site.

29. The work executed by PARTY shall be subject to audit and quality control checks from Quality Control Division & Technical Audit of EPI, Client, Inspecting Agency of the Client and Chief Technical Examiner of Central Vigilance Commission, Govt.of India. In the eventuality of any defect/ sub standard works as brought out in the report or noticed otherwise at any time during execution, maintenance period etc., the same shall be made good by the PARTY without any cost to EPI. In case PARTY fails to rectify the defect/sub-standard work within the time period stipulated by EPI, EPI shall get it rectified at the risk and cost of PARTY and shall recover the amount from the dues of the PARTY.

30. EPI has agreed to associate PARTY on the basis of details regarding experience profile, financial standing, credentials, fulfillment of statutory obligations, etc. of PARTY submitted by PARTY to EPI. In case, at a later stage if it is found that the PARTY has submitted incorrect, false details and credentials resulting in apprehensions on the
capabilities of PARTY with regard to quality & timely completion of works, financial capabilities etc, EPI can terminate this order solely at its option. In this eventuality the PARTY shall be liable for the losses suffered by EPI and further PARTY shall have no claim on EPI, whatsoever.

31. The "Parties" shall make efforts to settle disputes, if any, amicably. Only if amicable settlement is not possible, the same shall be referred to the sole arbitration of the Chairman & Managing Director (CMD) of EPI or the person appointed by the CMD, EPI and the decision of the arbitrator shall be final and binding on the "Parties". Arbitration will be according to "Conciliation & Arbitration" clause of GCC. (Enclosed in Annexure–B)

32. All other terms and conditions shall be as per the Tender documents of Client and the same shall be applicable between EPI and the PARTY on mutatis mutandis basis. The terms and conditions of this ‘Order’ shall superseded the terms and conditions contained in the Tender Documents of the Client in case of variance in any condition. However, if EPI is granted some concession or exempted from certain obligations by Client, by virtue of EPI being a Public Sector Company, the same concessions / exemptions shall not be applicable to the PARTY. The decision of EPI in this regard including interpretation of terms & conditions shall be final & binding on PARTY.

33. All the plant & machineries required for execution of the project are in the scope of the party and the same are to be mobilized at site immediately as per the details furnished by the party in Annexure – I.

34. Supply & erection of project sign board at site office as per Annexure – C is in the scope of the party.

35. The bid should be submitted in original documents as issued by EPI or as downloaded from the website www.epi.gov.in or www.eprocure.gov.in.. No alteration or correction should be made under any circumstances in the bid documents issued by EPI or as downloaded from the website.

36. If there are any provisions / conditions in these Additional Conditions of Contract, which are at variance with the provisions / conditions of General Conditions of Contract of EPI / Client or mentioned elsewhere in the tender, the provisions / conditions in these Special Conditions of Contract shall take precedence.

37. The contractor shall have to execute the work in pace and in such a way to facilitate agencies engaged simultaneously for execution of other works required for completion of the Structure / Building. No claim shall be entertained due to work being executed in the above circumstances.

38. The rate for extra / additional / derived items of work if any payable by client in turn shall be paid to the contractor as per the client's NIT after making a deduction @ 8% (eight percent only) from such each and every items of works.

39. The successful tenderer should not assign or sublet any portion of the contract.

40. The contractor shall himself arrange for the necessary installation and supply of electricity power etc. and the water for the work. The department will not incur any expenditure on this account. The charges towards temporary connections for temporary supply of electricity and water shall also be borne by them.
41. Tenderer should thoroughly acquaint themselves with the tender notice drawings, specifications articles of agreement and conditions of contract each tender should contain not only rates but also the value of each item of work entered in a separate column. All the items being totaled in order to show the aggregate value of each tender. The rate quoted by the tenderer is expressed both in words and figures.

42. WORKS COMPRISED IN THE CONTRACT:

This contract comprises the execution and completion of the work described or mentioned in these specifications and in the schedules here to, annexed and shown up on the drawings herein referred to, and all extra works, which may be ordered under the powers herein contained. The drawings, specifications, schedules etc., are to be considered as explanatory of each other and no advantage shall be taken of any omission in any of these documents.

43. DISCREPANCIES:

Should any discrepancy appear in any of the documents and drawings included in the contract, or between different parts of the same documents or any ambiguity or insufficiency of information, the contractor shall point out the same to the SUPERINTENDING ENGINEER Engineer-in-charge in writing and receive his instruction, explanation or decision in the matter, before quoting the tender.

44. The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.

45. CONDITION FOR SALES TAX

The Government of Tamil Nadu has amended the provision SEC 38/7c of the TNGST of Act 1959 and the Board has also approved procedure of deduction of Sales Tax for works vide BR No.258, dated:29.11.1999.

1. Transfer of goods involved in works contracts is liable to tax under Sec.3-B/7-C of the Tamil Nadu Gender Sales Tax Act 1959.

2. A new provision under Sec. 7-F for deduction of tax at source is introduced in the Tamil Nadu General Sales Tax Act 1959 by Tamil Nadu Act 15 of 1999 with effect from 10.06.1999.

3. As per this new Sec. 7-F of the Act, every person is responsible for paying any sum to any dealer for execution of works contract shall, at the time of payment of such sum, deduct two percent in respect of civil works contract and four percent in respect of all other works contracts for the total amount payable to such dealers.

Accordingly every contractor has to pay Sales Tax at 2% (Two Percent) in respect of civil works and at4% (Four Percent) in respect of all other works with effect from 10.06.1999. The Sales Tax will be deducted from the bills paid to the contractor.

SPECIAL CONDITION
As per the Government order the shrinkage period will be Two years from the date of completion as against the practice of six months in order to watch the effect of all seasons on the works. Accordingly after completion of work, a sum or equivalent to 5% of the value of work done from the contractors will be retained for the above period for the due fulfillment of contract for all works. Further the contractor should furnish an Indemnity Bond for the further period of three years. After retaining as stipulated and stated above, the balance amount such as E.M.D. may be returned only after the expiry of six months from the date of completion.

46. QUANTITY :

(A) The quantities here given are those upon which the lump sum tender cost of the work is based. But they are subject to alternation, omissions, deductions or additions as provided for in the conditions of this contract and not necessarily shown the actual quantities of work to be done. The unit rates noted below are those governing payment for extras or deductions or omissions according to the conditions of the contract as set forth in the preliminary specifications of the detailed standard specifications and other conditions of the specification of this contract.

(B) It is to be expressly understood that the measured work is to be taken net (Not withstanding) any custom of practice to the contrary according to the actual quantities where in place and finished according to the drawings or as may be ordered from time to time by the Executive Engineer and the cost calculated by measurement or weight at the respective prices, without any additional charges for the necessary contingent works connected herewith. The rates quoted are for works in site and complete in every aspects.

47. Flood damages etc., :- The contractor may take insurance at his cost against losses due to the unprecedented floods and other and naturals calamities. No claim shall be entertained on this account and paid for.

48. The seignorage and other charges payable to the District Collector are to be borne by the contractor. The contractor should handover all the receipt of full payment made to the District Collector towards seignorage charges paid by him to the Engineer in Charge. The receipt shall be in the name of the contractor concerned. If the seignorage charges part or full payment is not made to the District Collector, the amount due to the District Collector will be recovered from the bills.

49. Payment to the labourers:- The contractor shall note in the event of emergency he shall pay all labourers every day and if this is not done the Board shall make requisite payment and recover the cost from the contractor. The contractor shall not employ child labourer.

50. Night work: If night work is required to fulfill the agreed rate of progress and to complete the work within the period stipulated time, arrangement shall be made by the contractor including lighting without any claims for any extra rates.

51. It is obligatory on part of the contractor to effect recovery of employees “Provident Fund” subscription form his employees who have worked for more than 60 days and remit to the Regional Provident Fund Commissioner.
52. ADDITIONAL CONDITIONS:

1. The materials noted in the list enclosed will be supplied departmentally at the work site stores and their cost recovered from the contractors bills at issue rates noted against each.

2. The contractor shall be responsible for safe custody and storage of the materials under dry conditions at the place where the works got approved by the Engineer in Charge.

3. Royalty or charges due for use of private quarries and private land shall be paid by the contractor.

4. The contractor shall form his own approach road to the work site for which no extra will be due to him. On completion of the work, the contractor shall not be permitted to remove the materials laid for formation of road. If the contractor is allowed to use the existing roads, he shall maintain them in good condition at his own cost throughout the period of the contract.

5. Contractor is requested to provide at his own expense sheds, latrines and urinals for his workmen.

6. If night work is required to fulfill the agreed rates for progress, all arrangements shall be made by the contractor inclusive of lighting without any claim for extra rate.

7. The contractor shall not employ the labour below the age of 12 years and shall also note that he must offer employment to ex-serviceman, ex-toddy tappers and unemployed agricultural labourers as far as possible.

8. Payment will be made on detailed measurement. Any of the items in the schedule may be omitted for radically altered, no variation in the rate shall become payable to the contractor on account of such omissions or variations in quantity.

9. The contractor shall abide by the contract labour regulation formed by the Tamil Nadu Government.

10. The contractor shall at his own expense provide or arrange for provision of foot wear for any labour doing cement mixing work and all other similar types of works involving the use of tar, mortar, etc., to the satisfaction of the Engineering chief and on his failure to do so Government shall be entitled to provide the same and recover the cost from the contractor.

11. When there are complaints of non-payment of wages to the labour, bills of the contractor, maybe with held pending a clearance certificate from the labour department.

12. "Wherever the M.S. and R.T.S. rods, supplied to the contractors for use in the work, are found to differ from standard section weight, due to variance in size, sufficient number of samples of rods of each section from each consignment, as and when the rods are received should be tested in a recognised laboratory, well before the commencement of fabrication work after getting the approval of the Engineer in Charge. The actual weight as per test report shall be adopted in the bills".
13. Applicable to all cases of works where a minimum of fifty workers are employed except works relating to roads, channels and canals.

53. THE PROVISION OF HEALTH AND SANITARY ARRANGEMENT FOR WORKERS

a). FIRST AID:

At the work site there shall be maintained in a readily accessible place, first aid appliances and medicines including as adequate supply of sterilized dressings and sterilized cotton wool. The appliances shall be kept in good order. They shall be placed under the charge of the responsible person who shall be readily available during working hours.

b). DRINKING WATER:

1. Water of good quality fit for drinking purposes shall be provided for the work people on a scale of not less than 8 gallons per head per day
2. Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage tank where such drinking water shall be stored.
3. Every water supply storage shall be at a distance of not less than 50 ft, from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such well shall be entirely closed in and be provided with a trap door which shall be dust and water proof.
4. A reliable pump shall be fitted each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

c). WASHING AND BATHING PLACES:

Adequate washing and bathing places shall be provided, separately for men and women. Such places shall be kept in clean and drained condition, Bathing or washing should not be allowed in or near any drinking water well.

d). LATRINES AND URINALS:

There shall be provided within the precincts of every work place, latrines and urinals in an accessible place and the accommodation, separately for each of them shall be on the following scale or on the scale so directed by the Superintending Engineer in any particular case:

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<th>Seats</th>
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</thead>
<tbody>
<tr>
<td>(i) Where the No. of persons employed exceed 50</td>
</tr>
<tr>
<td>(ii) Where the No. of persons employed exceed 50 but does not exceed 100</td>
</tr>
<tr>
<td>(iii) For every additional 100</td>
</tr>
</tbody>
</table>

If women are employed, separate latrines and urinals screened from those for men shall be provided on the same scale.

Except in work places provided with water flushed latrines connected with a water store sewage system all latrine shall be provided with receptable on dry earth system which shall be cleaned at least four times daily and at least twice during working hours and kept in a
strictly sanitary condition. The receptances shall be tarred inside and outside atleast once a year.

The excreta from the latrines shall be disposed off at the contractor's expenses to the out way pits approved by the local public health authority. The contractor shall also employ adequate No. of scavengers and conservancy staff to keep the latrines and urinals in a clean condition.

e). SHEDS DURING REST :

At the work site there shall be provided, free of cost two suitable sheds one for male and the other for female, rest for the use of labourers.

f). At every work place at which 50 or more women workers are ordinarily employed there shall be provided two huts of suitable for the use of children under age of 5 years belonging to such women. Out hut shall be used for infants games and play and the other as their shed room. The huts shall not be constructed on a lower standard than following.

   a. Thatched Roofs.
   b. Mud floors and walls.
   c. Planks spread over the mud floor and covered with matting.

The use of the huts shall be restricted to children, their attendants and mothers of the children.

g). CANTEENS :

A cooked food canteen on a moderate scale shall be provided for the benefits of workers if it is considered expedient.

h). SHED FOR WOMEN :

The contractor should provide at his expense sheds for housing his workmen. The shed shall be on a standard not less than the cheap shelter type to live in which the work people in the locality are accustomed to, floor area of about 6’ x 5’ for 2 person shall be provided. The sheds are to be in rows with 5ft, clear space between rows if conditions could permit. The work people camp shall be laid out in units of 400 persons each unit to have clear a space of 40 ft, all round.

54.CLAUSES REGARDING ENGAGEMENT OF APPRENTICES

a) The contractor shall comply with the provisions of the Apprentices Act 1961 and the rules an orders issued there under from time to time. If the fails to do so, his failure will be a breach of the 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 agreement. The contractor shall also be liable for and pecuniary liability arising or account of any violation by him of the provisions of the Act.

b) Contractor shall during the currency of the contract ensure engagement of the apprentices in the categories mentioned below who may be assigned to him by the Director of Employment and Training / State apprenticeship Adviser, Tamil Nadu. The contractor shall train them as required under the Apprentice Act 1961, and the rules made these under, and shall be, responsible for all obligations of the employer under
the said Act including the liability to make payments to the apprentices as required under the said Act.

c). Unless the contractor has been exempted from engagement of apprentices by the Director of Employment and Training / State Apprenticeship Adviser, a certificate to the effect that the contractor has discharged his obligation under the said Act, satisfactorily should be obtained from the Director of Employment and Training / State Apprenticeship Adviser and the same should be produced by the contractor for final payment in the settlement of the contract.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Value of Contract</th>
<th>Category</th>
<th>No. to be appointed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rs. 1 lakhs and upto Rs. 3 lakhs</td>
<td>1. Building Constructor 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Brick layer 1</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Above Rs. 3 lakhs and upto Rs. 10 lakhs</td>
<td>1. Building Constructor 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Brick layer 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Diploma holder in Civil Engineering</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>Above Rs. 10 lakhs and upto Rs. 50 lakhs</td>
<td>1. Building Constructor 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Brick layer 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. B. E. (CIVIL) or equivalent degree holder</td>
<td>1</td>
</tr>
</tbody>
</table>
55. CONDITIONS REGARDING THE SCALE AND QUALIFICATION FOR THE EMPLOYMENT OF TECHNICAL STAFF AND THE RATES OF PENALTY FOR FAILURE ON THE PART OF THE CONTRACTORS TO EMPLOY THE TECHNICAL STAFF:

**SCHEDULE**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Value of Contract</th>
<th>Qualification and No. of Technical Assistants to be employed</th>
<th>Penalty for the failure to employ the technical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rs. 1 Lakh to Rs. 5 Lakhs</td>
<td>One Diploma Holder in Civil Engineering or not less than one retired Junior Engineer</td>
<td>Rs. 2,000/- per month</td>
</tr>
<tr>
<td>2.</td>
<td>Rs. 5 Lakhs to Rs. 10 Lakhs</td>
<td>One B.E. (Civil) or equivalent degree holder or not less than one retired sub-divisional officer (Assistant Executive Engineer) or one diploma holder with three years experience</td>
<td>Rs. 5,000/- per month</td>
</tr>
<tr>
<td>3.</td>
<td>Rs. 10 Lakhs to Rs. 25 Lakhs</td>
<td>One B.E. (Civil) or equivalent degree holder with three years experience in Civil Engineering works or not less than one retired sub-divisional Officer plus one diploma holder in Civil Engineering with three and five years experience respectively.</td>
<td>Rs. 7,000/- per month</td>
</tr>
<tr>
<td>4.</td>
<td>Rs. 25 Lakhs to Rs. 50 Lakhs</td>
<td>One B.E. (Civil) or equivalent degree holder with three years experience or not less than one retired sub-divisional officer or (Retired Assistant Executive Engineer) plus two diploma holders in Civil Engineering or two retired Junior Engineers. <strong>Alternative:</strong> One B.E. (Civil) or equivalent degree holder with three years experience or not less than one retired sub-divisional officer and one more B.E. (Civil or equivalent degree holder.</td>
<td>Rs. 9,000/- per month</td>
</tr>
<tr>
<td>5.</td>
<td>Above Rs. 50 Lakhs</td>
<td>Three B.E. (Civil) or equivalent degree holder with three years experience or not less than one retired sub-divisional officer and two more B.E. (Civil) or equivalent degree holder.</td>
<td>Rs/15,000/- per month</td>
</tr>
</tbody>
</table>

Note: Revised tariff for levy of penalty for non employment of Technical Assistant (As per G.O.Ms. No.181 P.W.(G2) Department, Dt:16.05.03)

BR No.28, dated:05.12.2003
(i) For Diploma holder Rs.2,000/- per month / each
(ii) For Degree holder Rs.5,000/- per month / each

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I / we will employ the following technical staff for supervision the work 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 require special attention (e.g.) reinforce concrete work.

<table>
<thead>
<tr>
<th>Name of members of technical Staff proposed to be employed</th>
<th>Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:-

13. The last two clause should be scored out if the cost of the work involved is less than Rs.10,000/-

14. The tenders should score out the last clause or the penultimate accordingly as they are themselves professionally qualified or under take to employ technical staff under them.

Rate of Progress
CONTRACTOR
(Fill in from Tender Notice)

Extra from schedule of quantities
CONTRACTOR
(Fill in only the table from Tender Notice)
**PACKAGE – 5A**

**Annexure – A**

**FACILITIES TO BE PROVIDED BY PARTY TO EPI**

Immediately on placement of LOI/Work Order (whichever is earlier) by EPI on the PARTY, the PARTY at its own cost shall provide furnished office, facilities etc. exclusively for the use of personnel of EPI as per details given below. The PARTY shall make his rates in their offer sufficiently comprehensive to cover the cost of the facilities as per details shown below and the PARTY shall not be entitled for any extra payment for the same:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QUANTITY / AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A) OFFICE ACCOMMODATION</strong></td>
<td>1000 sq.ft</td>
</tr>
<tr>
<td>Furnished Office/ Office cum Residential accommodation at one or more locations as per direction of EPI with basic amenities like Toilets, Drinking water arrangement, lights, fans etc. for exclusive use of EPI's Engineers &amp; Staff and maintenance of the same till Defect Liability Period. The Specifications and Design of accommodation shall be as approved by EPI.</td>
<td></td>
</tr>
<tr>
<td><strong>B) FURNITURE OF TOTAL VALUE</strong></td>
<td>Rs. 75,000/-</td>
</tr>
<tr>
<td>The size, specification, design and numbers shall be finalized by EPI.</td>
<td></td>
</tr>
<tr>
<td><strong>C) OFFICE EQUIPMENT</strong></td>
<td></td>
</tr>
<tr>
<td>a) Fax Machine</td>
<td>1 No.</td>
</tr>
<tr>
<td>b) Computer (i5 processor) with minimum 4GB RAM, 500 GB HDD along with UPS, Latest Version of Softwares like MS project, windows, MS office, CAD, etc&amp; Operator for each computer (In case Computer Operator is not provided by the PARTY, recovery of Rs.8000/- per month / per computer shall be made from the PARTY’S bills in this regard)</td>
<td>1 No.</td>
</tr>
<tr>
<td>c) Laser or any other Printer of equivalent amount of A3 size windows, MS Office, CAD, etc.</td>
<td>1 No.</td>
</tr>
<tr>
<td>d) Internet Facilities (connection to all computers)</td>
<td>1 No.</td>
</tr>
<tr>
<td>e) Refrigerator (165 ltr.) or any other gadget of equivalent cost as decided by EPI</td>
<td>1 No.</td>
</tr>
<tr>
<td>f) Air Conditioner with cooling &amp; heating (1.5Ton Capacity)</td>
<td>1 No.</td>
</tr>
<tr>
<td>g) Aqua Guard (Drinking Water) or any other gadget of equivalent cost as decided by EPI</td>
<td>1 No.</td>
</tr>
</tbody>
</table>
h) Photocopy Machine ((CANON NP 3050 or equivalent model) or any other gadget of equivalent cost as decided by EPI

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photocopy Machine</td>
<td>1 No.</td>
</tr>
</tbody>
</table>

i) Digital Camera of 10.1 pixel as above

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Camera</td>
<td>1 No.</td>
</tr>
</tbody>
</table>

### D) CONSUMABLES

a) All consumables like Stationary, ink etc. shall be provided by PARTY till end of defect liability period.

(Stationary items are inclusive of visiting cards, rubber stamps, letter pads, photocopies, photocopy papers & other items of daily office use). Amount shall be restricted to:

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stationary items</td>
<td>Rs. 2500/- per month</td>
</tr>
</tbody>
</table>

b) Running & Maintenance of the equipment mentioned above are to be done by the PARTY at his own cost.

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Running &amp; Maint</td>
<td>As per actual</td>
</tr>
</tbody>
</table>

### E) TELEPHONE WITH STD FACILITY AND INSTRUMENT

a) office Telephone (Fixed Line)

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Telephone</td>
<td>1 No.</td>
</tr>
</tbody>
</table>

b) Mobile Phone

Monthly operational expenditure on account of all telephones shall be restricted to:

- The cost of each Mobile Phone Instrument shall be restricted to

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Phone</td>
<td>Rs. 2500/- per month</td>
</tr>
<tr>
<td></td>
<td>Rs. 6000/- per month</td>
</tr>
</tbody>
</table>

### F) VEHICLE (Brand New)

Four wheel drive Scorpio DX vehicle or equivalent with Driver and accessories valuing Rs.30,000/- each vehicle

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four wheel drive Scorpio DX vehicle</td>
<td>1 No.</td>
</tr>
</tbody>
</table>

Monthly running shall be restricted to

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly running</td>
<td>4000 KM (Each vehicle)</td>
</tr>
</tbody>
</table>

### G) OFFICE BOY CUM COOK on full time basis for EPI

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Boy Cum Cook</td>
<td>1 No.</td>
</tr>
</tbody>
</table>

The vehicles shall be brand new and shall be provided with driver on full time basis. Consumables like diesel/petrol/oil lubricants and spare parts etc. shall be provided by the PARTY at their cost. The vehicles shall be maintained in good working condition. In case of breakdown, replacement of vehicles shall be provided by PARTY immediately. The cost of registration, transportation etc. shall be borne by the PARTY. In case a vehicle is not required by EPI, a recovery of Rs.50,000/- per month per vehicle shall be made from the PARTY for this purpose till the end of defect liability period. In case Driver, POL, maintenance of any vehicle is not required by EPI for any vehicle, a recovery of Rs.20,000.00 per month per vehicle shall be made from the PARTY for this purpose till the end of defect liability period. In case the party do not provide vehicle or driver or POL or maintain vehicle, EPI shall arrange the same on behalf of the party and the cost towards availing these facilities shall be deducted from RA bills.

The above gadgets and facilities should be brand new and of reputed make and all facilities shall be provided and maintained properly (including payment of water & electricity bills etc.)
by the PARTY at Project site or at any other office related with execution of this project till completion of work, handing over, defect liability period in all respect at his own cost. The PARTY shall also make stand-by arrangement for water & electricity to ensure un-interrupted supply. The equipment/items shall be the property of PARTY at the end of contract. The PARTY shall be responsible for watch and ward of site office and other facilities etc. In case of theft/damage of any equipment/items, the PARTY shall immediately replace the same within a maximum period of two days.

The PARTY shall provide ‘Sign Board(s)’ as per design approved by EPI and/or Client.

In case the above facilities are not provided by the PARTY within 10 (ten) days of award of work or replacement is not provided within the specified period, EPI shall arrange the same at the risk and cost of the PARTY and make the recoveries from the bills of the PARTY for the same. The decision of EPI shall be final and binding on the PARTY in this regard.
CONCILIATION AND ARBITRATION

Before resorting to arbitration as per the clause given below, the parties if they so agree may explore the possibility of conciliation as per the provisions of Part-III of the Arbitration and Conciliation Act.1996. When such conciliation has failed, the parties shall adopt the following procedure for arbitration: -

1. Except where otherwise provided for in the contract, any disputes and differences relating to the meaning of the specifications, designs, drawings and materials used in the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the Sole Arbitration of the Chairman and Managing Director (CMD) of Engineering Projects (India) Limited (EPI), or any other person discharging the functions of CMD of EPI is unable to act, to the Sole Arbitration of some other person appointed by the CMD of EPI or such person discharging the functions of CMD of EPI. There will be no objection if the arbitrator so appointed is an employee of Engineering Projects (I) Ltd. However, such an employee shall not have directly dealt with the said contract or the works there under on behalf of EPI. Such Arbitrator shall be appointed within 30 days of the receipt of letter of invocation of arbitration duly satisfying the requirements of this clause.

2. If the arbitrator so appointed resigns his appointment, is unable or unwilling to act due to any reason whatsoever, or dies, the Chairman & Managing Director aforesaid or in his absence the person discharging the duties of the CMD of EPI may appoint a new arbitrator in accordance with these terms and conditions of the contract, to act in his place and the new arbitrator so appointed may proceed from the stage at which it was left by his predecessor.

3. It is a term of the contract that the party invoking the arbitration shall specify the dispute/differences or questions to be referred to the arbitrator under this clause together with the amounts claimed in respect of each dispute.

4. The arbitrator may proceed with the arbitration ex-parte, if either party, in spite of a notice from the arbitrator, fails to take part in the proceeding.

5. The work under the contract shall continue, if required, during the arbitration proceedings.

6. The arbitrator shall make speaking Award and give reasons for his decisions in respect of each dispute/claim along with the sums awarded separately on each individual item of dispute or difference or claims. The Arbitrator shall make separate award on each reference made to him.

7. The award of the arbitrator shall be final, conclusive and binding on both the parties.
8. Subject to the aforesaid, the provisions of the Arbitration and Conciliation Act, 1996 or any statutory modifications or re-enactment thereof and the Rules made there under and for the time being in force shall apply to the arbitration proceedings and Arbitrator shall publish his Award Accordingly.

Note: Notwithstanding anything contained herein above, this clause shall not be applicable where the dispute is between EPI and another Public Sector Enterprise or Govt. Department for which a separate Arbitration Clause is provided vide Clause No. A given below:

A. ARBITRATION BETWEEN PUBLIC SECTOR ENTERPRISES INTERSE/GOVERNMENT DEPARTMENTS.

1. In the event of any dispute or difference relating Interpretation and application of the provisions of the contract, such dispute or difference shall be referred by either party to the arbitration as per the instructions (Office Memorandum/Circulars) issued by Govt. of India from time to time with regard to arbitration between one Govt. Deptt and another, one Govt. Deptt. and a Public Sector Enterprise and Public Sector Enterprises inter se.

2. Subject to any amendment that may be carried out by the Government of India from time to time the procedure to be followed in arbitration shall be as is contained D.O. No. DPE/4(10)/2001-PMA-GL1 dated 22/01/2004 of Department of Public Enterprises, Ministry of Heavy Industries and Public Enterprises or any modification issued in this regard.
Sub: List and recovery rate of material to be issued by EPI

Construction of G+7 RCC Framed Structure tenements buildings 5 buildings and 3 buildings from plinth level & above in Chennai near Perumbakkam Phase- II (Package-5A).

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description of Item</th>
<th>Unit</th>
<th>Recovery Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cement (IS 8112)</td>
<td>MT</td>
<td>As per actual FOR site (unloading &amp; storing of material in the scope of contractor)</td>
</tr>
<tr>
<td>2.</td>
<td>Reinforcement Steel (IS1786)</td>
<td>MT</td>
<td>-do-</td>
</tr>
</tbody>
</table>

Notes:

(i) Wastage in any form, if any will be to the contractor’s account.

(ii) EPI will make recovery against all excess consumption which will be calculated on theoretical quantities only. Permissible wastage (for reconciliation purpose only) of these materials calculated on theoretical quantities shall be recovered at actual cost / rates of procurement by EPI and any wastage beyond this permissible limit shall be recovered at double the market rates.

(ii) Cement and steel shall not be issued by EPI for supply items such as precast Jali, door / window frames, window/ ventilator grill, SFRC fencing grill, precast terrazzo tiles or other tiles, interlocking pavers.

(iii) White cement, if any required for the work such as flooring, etc shall not be issued by EPI.
TECHNICAL SPECIFICATIONS
1. **SPECIFICATION**:

‘Specifications means the standard specifications of, TNPWD, highways Department and any particular specifications set out for this particular contract. In the absence of any specification issued by the Department, the specifications issued by the Bureau of Indian Standards or sound engineering practices will apply.

2. It shall be the responsibilities of the successful contractor to undertake their own studies on soil testing and structural design before actual commencement of works. These studies should be duly certified by reputed institution like IIT/Anna University. Any lapse in the future, due to failure on account of soil testing and or(structural design) shall be total responsibility of the contractor in terms of monitory value (or) otherwise.

3. The contractor should take the responsibility to justify the suitable structural designs and any damages to physical properties due to structural failure or soil failure before handing over to the Superintending Engineer(JNNURM) and it should be borne by the contractor.

4. Omissions : In the event of anything reasonably necessary or proper to the due and complete performance of the work (of which the Engineer shall be the sole judge) being omitted to be shown or described in the drawings, specification and schedules, the contractor shall execute and provide at the rates quoted in the Bill of Quantities all such omitted works and things as if they had been severally shown and described and according to the directions of the Engineer and to his satisfaction

5. **SPECIAL CONDITION FOR CEMENT**:

   (a) The contractors should make their own arrangements to procure the required quantity of good quality of cement for the works form the approved manufacturers confirming to ISI standard with the prior approval of the Engineer in Charge.

   (b) The cement shall be of fresh and good quality confirming to the specification as per IS 8112/1989 43 grade.

   (c) The cement in each consignment shall be tested by the contractors at their risk and cost for its strength and quality in approved Government laboratories and necessary certificate to be produced before its actual use in the work, with the prior approval of the Engineer in Charge.

   (d) The samples for the test should be collected only in the presence of the Engineer in Charge or the officers authorized by him.

   (e) The contractors should inform the Engineer in Charge in charge of the work about the arrival of cement consignment, each time and maintain minimum stock of cement quantity as specified by him.
(f) The rejected cement consignment if any should be removed from the site immediately at their risk and cost.

(g) The quantity of cement required for testing shall be supplied by the contractors at free of cost.

(h) The contractors are responsible for the storage of cement and make all arrangements for the stock and safety at site of work.

(i) The contractors should produce the manufacturer's certificate for which the cement supplied by them.

(j) The contractors shall procure in standard packing of 50kg per bag from the authorized manufactures. The contractors shall make necessary arrangements at their own cost to the satisfaction of Engineer-in-charge for actual weight of random sample from the available stock and shall conform with the specification laid down by the Indian Standards Institution as per IS 8112/1989. Cement shall be got tested for all the tests as directed by the Engineer-in-charge at least one month in advance before the use of cement bags brought and kept at site godown.

(k) The contractor shall store the cement of 30 days requirement at least in advance to ensure the quality of cement to be brought to site and shall not remove the same without the written permission of Engineer-in-charge.

(l) The contractor will have to construct sheds for storing cement having capacity not less than the cement required for 30 days use at approved locations. The Engineer-in-charge or the representative shall have free access to such store at all times.

(m) The contractor shall further at all times satisfy the Engineer-in-charge on demand by production of records and test books or by submission of returns and other proofs as directed that the cement is being used as tested and approved by Engineer-in-charges for the purpose and the contractor shall at all times keep his record upto date to enable the Engineer-in-charge to apply such cheeks as he may desire.

(n) Cement which has been unduly long in storage with the contractor or alternatively has deteriorated due to inadequate storage and thus become unfit for use on the works will be rejected by the Department and no claim will be entertained. The contractor shall forth with remove from the work area any cement if the Engineer-in-charge may disallow for use in work and replace the cement complying with the relevant Indian Standards.

6. SPECIAL CONDITION FOR STEEL:

1. a) The Contractors have to make their own arrangements to procure standard quality of steel from the reputed dealers with prior approval of the Engineer in Charge.

   b) The quality of steel should confirm to Indian Standard specification code I.S.226 for Mild Steel and I.S.1786 for Ribbed Tor Steel (CTD bars).
c) The steel supplied shall be sound and free from cracks harmful surface flaws, lamination, rough and imperfect edges other defects.

2. The contractors with prior approval of the Engineer in Charge have to make their own arrangement to test each consignment of steel from the Government testing laboratory at their risk and cost for strength, section weight and diameter and produce the test certificate before its actual use in the works which will be allowed in bills.

3. The result should pass the test. Test also inclusive of physical properties such as weight 0.2% proof stress, Tensile strength percentage of elongation and Bend test.

4. Tolerance on weight:-The tolerance on weight for bars shall confirm to relevant ISI specifications.

5. The contractor should produce the manufacturer’s test certificate for each consignment.

6. 6mm MS steel is to be supplied only in the form of coils.

7. **SPECIAL CONDITIONS FOR FILLING LOW LYING AREAS**

   (a) At any time during the execution of work, if it is found that the filling earth is transported from areas other than chosen for deepening Eri, payment will not be made and is liable to attract penalties.

   (b) Pre-levels as taken by the Anna University will be given to the contractors for verification before commencement of work. If the contractor represents that the firm is not satisfied with the computation of levels, levels will be taken by Anna University in presence of the contractor. The contractor has to bear the charges. The level furnished by Anna University is the final.

   (c) After filling, final levels will be taken by Anna University. The contractor should sign the final levels also. Payment will be made based on the difference between the pre and final levels for the filled-up portions with the filling earth at different stages. The payment will be made as per the quantity computed by Anna University.

   (d) If any intermediate payment is desired by the contractor, levels at that stage will be taken and quantity arrived at a deduction in the quantity will be made based on the consolidation achieved. The decision of the Engineer in Charge is final and binding for proposing the quantity to be deducted for interim bills.

   (e) Pre final payment shall however be restricted only to 90% of the total value of work satisfactorily completed and finally measured for. Pre-final payment will be assessed based on the consolidated final levels. Release of the remaining 10% shall be effected only after and immediate monsoon period of 3 months (October to December), but in any case not later than 12 months (Commencing from the last date of measurements). Shortfall if any should be made good by the contractor.
(f) The contractor shall make his own arrangements for the machineries, power roller, clean fresh water etc., for use on the works and shall meet all charges there for.

(g) The contractor shall employ at his cost necessary watch and ward to safeguard his machineries, plants etc., including barricading and danger lighting where ever the machineries are stationed as well as for the works turned out by him and paid for from

(h) The contractor shall make his own arrangement for the required machineries such as earth remover, bulldozer, lorry, tipper, power roller, vibratory roller. However, incase the Tamil Nadu Slum Clearance Board arranged for any item of the machineries / equipments, the recovery shall be made as decided by the Tamil Nadu Slum Clearance Board, in addition to mobilization charges.

(i) For any disputes, the cases will be referred to the court of Law under the jurisdiction of Chennai City.

(j) The tenderer is requested to specially note that if any incidental pumping is opted by the tenderer to facilitate his own mode of excavation all incidental charges including pumping shall be borne by him.

(k) Before commencing the work and also during the progress, the contractor shall give notice to the concerned authorities. Viz the Panchayats / Municipalities, the Railway department, Police and other departments or company as may be required to the effect that the work is being taken up in particular locality and necessary diversion of traffic may be arranged for. The contractor shall co-operate with the department concerned and provide for necessary barricading of roads, protection to existing cables, wires etc., during the excavation. The contractor shall provide at his own expenses watching and lighting arrangements during the day and night times and put the required notice board such as “CAUTION-ROAD CLOSED” for traffic etc.,

(l) He should also provide and maintain at his own cost, the necessary supports for under ground cables etc., to afford best protection to them in consultation with the authorities in-charge of the properties and to their best protection.

(m) The rate of excavation shall include charges for bailing and pumping water wherever necessary and no extra payment shall be made for any of these contingent works. The pumping plant, hose pipe connections etc., required for pumping shall be arranged for only by the contractors and no arrangements shall be made for these by the Tamil Nadu Slum Clearance Board.

(n) No payment will be made for the excess earth brought by the contractor and such surplus earth brought to the site shall be disposed off by the contractor at his own cost in the places shown. The written instruction of the EPI/TNSCB authorities should be obtained for bringing earth beyond the place originally located for refilling.

(o) Only materials capable of giving on compaction in field, a dry density of more than 15.00 KN/m3 shall be used for the filing. For assessment of suitability of the materials for use in the work, the contractor may get the materials duly tested, for compact ability in the
laboratory indicated by the Engineer in Charge (at the cost of the contractor) in accordance with Proctor’s Procedure. Notionally given a dry density of 16.50 KN/m3 or more on compaction at optimum moisture content in the laboratory are suitable for the work.

(p) Although the laying of materials shall proceed in 15cm layers and further consolidated, dry density tests will be carried out only when a consolidated thickness of 15cm is achieved.

(q) One set of two core samples for every 3000 square meter area of each layer shall be taken and tested. The average dry density shall not be less than 15.00 KN/m3. The contractor shall bear the expenses of the above tests, which shall be carried out in Highways research laboratory or any other lab as directed by the Engineer in Charge.

(r) It is hereby made clear that for any stagnation of water or inundation of water due to any reason whatsoever in the filling site or at the commencement of work at the time of handing over of site, for the execution of work or during execution of work, the contractor should make his own arrangement to bailout the water at his own cost. The department will not accept or entertain any plea for bearing this cost or allowing extension of time on this score to complete the work.

8. **SPECIAL CONDITION FOR THE ELECTRICAL WORKS**

1. The work shall be carried out in accordance with the General specification for Electrical works and the code of practice for electrical wiring installing I.S.8732/1963 and I.S.3045/1965 and as amended up to date. All installation shall comply with the requirement of Indian Electricity Rules 1956 and Act and I.S. code amendment up to date.

2. Approval of the Engineer – in – charge shall be taken well in advance for all materials and brand of materials to be used on works by the contractor based on the description of the Engineer in Charge – in – charge and this decision will be final.

3. Bad workmanship is liable to be rejected in total.

4. The contractor shall supply on completion of work, completed plan along with insulation, polarity and earth test reports before the installation is to be handed over to the Executive – in – charge in good condition in triplicate. The tests should be carried out in the present of Engineer – in- charge at contractor’s cost.

5. All repairs and patch works shall be neatly carried out to match the original finish and to the entire satisfaction of Engineer – in – charge.

6. The Contractor shall make his own arrangements at his own cost for all general T & P and special T & P required on the job.

7. The Contractor shall make his own arrangements for storage of materials and watch and ward at his own cost till installation (completed works) is handed over to the Department after obtaining the service connection from Electricity Board and testing the
line. Any loss and tampering of materials for which the payment was made by the department, shall be made good by the Contractor at his own cost.

8. Issue of the materials to the Contractor wherever stipulated shall be regulated to the needs from time to time depending upon the progress.

9. Materials stipulated for issue shall be taken over to the site of works and the safe custody till completion of the job is the responsibility of the contractor.

10. All debris due to electrical works shall be removed from site by the contractor as soon as the work is completed.

11. Electrical works shall be progressed by the contractor side by side with the progress of the building work, carrying of conduits for recessed portion shall be planned together with the building progress so that there is no hindrance to the building progress at any stage.

12. The internal E.I. shall be ordinarily carried out according to the drawing supplied with the schedule of work subject to change made by the Engineer in Charge-in-charge.

13. The wiring routs shall be marked at site first and get approval from the Engineer in Charge – in – charge before commencement of actual work. The work must be carried out as directed by the Engineer in Charge – in – charge.

14. In place, where electrical conduit is required to place through wall / RCC column / beam etc., the conduit shall be laid during the execution of work in consultation with the Engineer – in – charge so as to avoid the need for cutting the structure at a later stage.

15. The teak wood materials such as fillets specials T.W.boxes and all materials shall be got approved from the Engineer – in – charge before use to ensure the quality of materials.

16. In the case of recessed conduit works, the M.S. Boxes shall also be recessed and covered with 1/8” (3mm) hylem bake lite sheet. The thickness of M.S. Box sheets shall not be less than 3mm thick.

**PROVISION OF FITTINGS**

17. All switch boards shall be placed such that the bottom is normally 1.22 metres above floor level or such height as decided by the Engineer – in – charge.

18. All fittings shall be provided at 2.6 metre from the floor level or such height as decided by the Engineer – in – charge.

19. The convenient 5/15 amps plug socket shall be 23 cm above the floor level or such height as decided by the Engineer – in – charge.

20. Wiring shall run normally at 2.6 metres from the floor level or such height as decided by the Engineer – in – charge.
21. The materials issued if any by the department to the contractor the cost will be recovered at the stores issue rates. If the contractor fails to return the surplus materials after completion of work, the cost will be recovered at double the stores issue rate or market rate whichever is higher.

22. Tools and Plants generals and special as required on the work is to be arranged by the contractor at his own cost.

23. Brass tinned link / joint clips of 0.32mm (30 gauge) thick up to 40mm length and 0.40mm (28 gauge) thick above 40mm length and of 8 mm width shall be used on the work.

24. Brass hinges brass hooks and eyes, single plank teak wood board 60mm minimum depth in case of open wiring and minimum depth of 100mm in the case of concealed wiring and not less than 6mm thickness shall be used on the works.

**FIXING OF WOODEN BATTERNS**

25. The screws shall be used for fixing the wooden battern and accessories at an interval not exceeding 50cm. The thickness of batterns shall not be less than 10mm.

26. The clips are provided on the wooden battern with screw / pins and spaced at an intervals of 15cm both in the case of horizontal and vertical run.

27. The round block shall not be less than 75mm and 40mm deep and fixed by means of 2 Nos. of screws.

28. Piona type switches, sockets outlets of approved make wherever needed shall be used for recessed boards after getting the approval of Engineer – in – charge.

29. Only brass screws shall be used for fittings, switches, plug and sockets main boards and distribution boards and teak wood accessories etc., required for wiring.

30. All conduit pipe shall be of approved gauge (not less than 16 SWG 14 SWG) solid drawn or lap welded finished with galvanized stone enameled finish. The saddles used shall not be less than 24 gauge up to 25mm dia pipes and not less than 20 gauge for longer dia pipes.

31. The main earthing load shall not be less than 8 SWG copper (4.06 mm) incase of copper wire earthing of 6 SWG G.I. Wire (4.98 mm) incase of G.I. wire earthing separate earthing shall be provided for all mountings of main boards, distribution boards, 5/15 amps C.S.plugs sockets with not less than 14 SWG of copper (2.03mm).

32. Earthing shall confirm to the relevant I.S.code 303 / 1966. The G.I. pipes earth electrode system is adopted. G.I. pipes shall be of medium class 38 / 40mm dia 3.75 metres long. The electrode shall be buried in the ground vertically with its top not less than 20cm below ground level. Normally an earth electrode shall provide 1.5 metres away from any building. Incase of providing twin earthing the distance between the earth pits shall be 10’0” alternative layers of charcoal or coke and salt of minimum 15cm thick are to be provided from the bottom of earth pit up to1 metres below ground level and the masonry
work is to be carried out in brick with cement mortar 1:4 (One of cement and four of sand) above the last layer and the top is to be covered by suitable cast iron frame and cover.

33. The staircase light point wiring must be done by looping or piece wire system and switch must control phase or line wire only.

34. Looping in system is to be adopted for wiring normally the looping of neutral to light fan plug points etc., shall be restricted to 3 points for a single wire from the switch board.

35. The wooden batten and specials shall not be butt jointed and joints should be lap jointed.

36. The wiring must be done using bend and corners wherever necessary sharp banding or cabling must be avoided.

37. The lighting circuit shall not have more than 10 points or a load of 800 watts which ever is less. In exceptional cases the lighting circuit shall not have more than 8 points.

38. Power wiring shall be kept separate and distinct from the lighting wiring.

39. The contractor should be present at the premises at the time of effecting service connection by the Electricity Board authority and afford all facility for testing and commissioning the installations.

40. The apartment main switches and the main switches at the Electricity Board Service connection should be numbered in paint for easy identification and the damager boards should be provided wherever necessary according to the I.E. rules and indications.

41. The Contractor should provide sufficient leads for connecting the main switches to meters and cuts provided by the Electricity Board at his own cost.

42. Looping of neutral and connection wires in the switch boards must be carried out through mechanical connectors and proper insulation shall be provided inside the switch boards wherever necessary to avoid short circuiting the system.

43. The scaffolding and the shed required for the Electrical installation works should be put up by the contractor at his own cost.

44. The run off mains relates to the mains run from the buss bar to distribution board or buss bar main switches as the position indicated in the electrical layout. The point wiring shall include mains taken from distribution board or main switch to board. The main for this shall not be measured and paid.

The run off mains relates to the mains run from the main switches provided inside the apartments to the Electricity Board authorities. The earthing for the main switches provided in the service connection board should be properly interconnected and connected to the main earthing system.
45. Each circuit has to be taken from the D.B. by separate independent conductor / separate group of wires from D.B. and they could be distinctly visible. The wiring must be done if there is no D.B. with distributed circuits as directed by the field staff.

46. For temporary supply if any required by the contractor himself should supply to M.E.S. and obtain the supply at his own cost.

47. PVC pipes and specials M.S. Boxes etc., if available with the department the same may be supplied for works at recovery.

48. The contractor should prepare necessary electrical systematic layout drawing at this own cost and get approval from the Chief Electrical Inspection to Government, Madras - 2 and the permission to enlarge the same from the CEIG (Madras – 2).

49. The Contractor shall use only the brand of materials that are approved by the Engineer – in – charges.

50. The Electrical installation to be carried out as per the specification and it confirmed to I.E. rule.

51. SALES TAX: “The contractors shall be solely responsible to the payment of Sales Tax under the provisions of the Tamil Nadu General Sales Act 1939 (Madras Act IX of 1939) as in force for the time being and the rates for the various items of the work shall remain unaffected by any change that may be made from time to time in the rate at which the sales tax is payable”.

52. All rates quoted in the tender shall be inclusive of payable under General Sales Tax Act, as amended from time to time (Including Amendment Act) 28/84 and that the contract or responsible to file the sales tax returns and may be the tax as demanded by the Commercial Tax Department. No request for payment of sales tax separately, in addition to tendered rates due to any subsequent levy increase in tax, will be entertained vide also clause 38 (2) or General conditions of contract.

53. The Electrical contractors should hold either ‘A’ grade license (or) ‘B’ grade license issued by the Electrical wireman and supervisor contractor licensing Board.

54. Clean fresh water and river sand shall be used in all cases.

55. Only clean fresh water shall be used on the work. The Contractor shall make his own arrangement for water and shall meet all charges therefore. The special attention of the contractor is drawn to clause 36 of the Preliminary Specification in the T.N.D.S.S. regarding water and lighting.

56. The broken stone for concrete and R.C.C. work should be of granite as passed by the Engineer in Charge.
57. All iron work or steel work of every kind except such as is to be embedded in cement concrete shall immediately on arrival at the site be properly scrapped and wire brushed and give a priming coat of approved red lead paint without claim or extra.

58. All fittings and furniture of doors and windows shall be of best quality steel machine made and well happened. The iron holdfasts shall be built up in the walls in cement mortar 1:3 at the time of construction of wall no extra claims shall be due for the same. Wherever holdfasts are to be provided 9" thick walls, these should be fixed with C.C. 1:3:6 using 3/4" size hard broken granite stone jelly proper anchorages and for proper binding. No separate rate for such of concrete filling at hold fasts point will be allowed and this will be measured as masonry along with adjacent masonry.

59. The teakwood shall be best Indian teakwood only and shall be subject to inspection and approved by the Engineer in Charge before use on the work. Country wood where specified shall be of best Karimaru and Mongu for scantling and Aiyni for planks.

60. Holes and chases for electric wiring, water supply and drainage etc., shall be provided as directed during progress of work without any claim for extra.

61. The work shall be carried out with the least hindrance to the adjoining buildings and officers and the contractor will be responsible for any damages, caused to the existing fixtures, electric fitting etc., in the course of execution and the contractors shall make good any such damages without any claim the extra.

62. In the case of ‘T’ beams and ‘L’ 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 R.C.C. work the rate shall include the treatment of bearing as per plate W.No.2 of 1946 as per M.D.S.S. (Page 52 of 952 edition.)

63. Plastering all external corners, edges of beams, edges of doors and windows, openings etc., shall be finished sharp using richer mortar if necessary and also finished truly vertical or horizontal as the case may be the rate of plastering shall include the cost of finishing as above and no separate rate for finishing the corners, edges of beams, etc., will be paid.

64. Fixing iron bars to windows : The methods of measurements for this item of work shall be area of the window frames.

65. If rates are not separately called for similar items of work in different floors the contractor should note one rate applicable for all the floors indicating in the detailed plans. Any claim for extra rates for such items floor-war will not be entertained under any circumstances.

66. The revised preliminary specification of the T.N.D.S.S. are applicable of the contractor as per G.O.2659 P.W.D. dated 23-12-79.
9. ADDITIONAL SPECIFICATIONS

1. The planks for forms and centering for R.C.C. works shall be of well-seasoned timber approved by the Engineer in Charge according to Clause (10) of M.D.S.S. No.30. They must be made smooth and perfectly level at top so as to give smooth and even finish to the R.C. Ceilings. Alternatively the contractor may use steel sheets over wooden form provided the required finish to the under-side of the slabs is obtained. Mango planks shall not be used under any circumstances. Centering and forming shall be provided to the extent and as ordered by the Engineer in Charge during the execution.

1. All cement concrete for R.C.C. work shall be machine mixed and vibrated.

2. All lime mortar shall be ground in a mortar mill as per M.D.S.S.

3. (a) M. S. Steel rods should be cut and placed as reinforcements with proper care according to the available rods at site so as to ensure the minimum possible wastage.

4. The cut bits shall be to the account of the contractors themselves and the same will not be taken back.

5. For the quantity of steel issued in excess of 5% over and above theoretical requirements and not returned to the Department in good condition, penal recovery will be made at double the issue rate, in addition to the normal recovery rate.

6. For the quantity of cement issued in excess of the theoretical requirement with an allowance indicated in the circular cited above and not returned to the department in good condition, penal recovery will be made at double the issue rate, in addition to the normal recovery rate.

<table>
<thead>
<tr>
<th>Value of works</th>
<th>Percentage of allowance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto Rs. 2.00 lakhs</td>
<td>5% (Five)</td>
</tr>
<tr>
<td>Upto Rs. 2.00 lakhs to Rs. 5.00 lakhs</td>
<td>4% (Four)</td>
</tr>
<tr>
<td>Above Rs. 5.00 lakhs</td>
<td>3% (Three)</td>
</tr>
</tbody>
</table>

7. If at any time subsequent to the execution of this agreement, department, materials other than those specified in the agreement are supplied to the contractor for use on the work, they will be charged at the market value prevailing at the time of supply or stock issue rates whichever is higher. The contractor will be informed in writing of this charge and he should intimate in writing the rate which i.e., demand for finishing the work in view of the fact that he is to use department materials. No centage or incidental charges will be borne by the Government in connection with the supply of the materials.
10. SPECIFICATIONS FOR SANITARY FITTINGS DRAINAGE AND WATER ARRANGEMENTS

1. Water closets, basins, urinals sinks and other sanitary ware shall be of approved make as required in the relevant items. The fixing of these shall be in accordance with the special specifications separately attached.

2. The rates shall include all dismantling making holes in walls of slabs and restoring the structures to the original conditions after the completion of the work.

3. The work shall be carried out with least hindrance to the adjoining building and the contractor shall 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 such damages without claim for extra.

4. The rate of laying stoneware pipes shall include necessary earthwork excavation for trenches (irrespective of nature of all incidental charges such as shoring strutting and bailing out water refilling trenches) after the completion of works and consolidating, removing the surplus earth to places shown within compound and making good the damages to roads and other structures.

5. The rates for laying C.I. Pipes and G.I. Pipes shall include earthwork for trenching and refilling them and fixing with plug, clamps and screws where the pipes are fixed to walls the rates for G.I. Pipes shall also include wrapping them with tarred tape where they are buried in earth tarring the portions embedded in masonry and painting with white lead paint, two coats for portions above ground level.

6. The clamps for G.I. Pipes fittings should not be spaced more than 6 feet apart, the wooden plugs for pipe and bracket fittings should be properly fixed in cement mortar 1.3 in holder make, in masonry with the wide end of wedge plugs inside and no hammered with them and into the walls. The size of plugs should not less than 1” square at this end and 1 1/2” at the other end with depth of not less that 3”.

7. Painting with two coats of best white paint (or any other colour approved by the Engineer in Charge) over a priming coat of red lead to all flushing tanks, brackets clamp used for fixing pipes) and all lead connections. Painting with two coats of anti corrosive paint of approved colour to all C.I. Soils waste and anti syphonage pipes.

8. The rates shall include all dismantling making holes in the slabs and restoring the structure to the original condition after the completion of the work.

SUPPLYING AND FIXING INDIAN TYPE WATER CLOSETS

9. The Indian type water closet shall be fixed in position at floor level in a bed of concrete brick jelly in lime mortar the proportion being 32:12 1/2 so as to completely embed the closet trap and foot rest. The existing masonry structures after dismantling the floor, making the holes, etc., shall be restored to its original condition after completion of the work. The flooring around the closet shall be finished off in cement mortar 1:3,1/2” thick with adequate slope alround for draining into the closets. The foot rest should be fixed at an angle shown in sanitary Engineer's type designs.
10. The cast iron flushing tank shall be of three gallons capacity of Indian make of approved brand supported G.I. brackets with necessary G.I. chain and handle for pull float ball valve 1/2" lead and brass connections to the closet including necessary connection to the water main and closet complete and wiped solder joints. The flushing tanks and bracket must be painted with white glazed enamel paint 2 coats over a priming coat of red.

11. The fixing of water closets shall include the dismantling of existing floors wherever indicated making holes in masonry walls etc., and restoring structure to original condition after completion of the work. The flushing tank and accessories will be fixed to the walls with necessary clamps and brackets in cement mortar 1:0.

11. CONDITIONS FOR LIME

1. The lime shall be burnt from shells, lime stone or kanker as specified and shall be carefully free from earth impurities.

2. The process of burning shall be carried out in such kilns and, with such fuel of the Executive Engineer may approve.

3. In all cases, the lime shall be delivered at the site of the mortar mill quite fresh, i.e., within seven days of the date on which it was drawn fresh from the kiln. In case where compliance herewith is not possible due to seasonal closure of kilns, written permission of the Engineer in Charge is necessary be forestored slacked lime can be used.

4. The lime shall be slacked, if so required in the presence of a departmental representative before being put into the mill. All impurities, ashes, or pieces improperly or carelessly burnt shall be screened or picked out before slacking and removed at once from the work.

5. The lime shall then be screened through sieve of such size as the Engineer in Charge may direct and all stuff that will not pass through the sieve shall be rejected. In the absence of separate orders under this clause a wire screen of 94 meshes to the square inch shall be used, except for plastering second and third coats or for any fine work defined accordingly by specification in which case the lime is to pass through a sieve of 324 meshes to the square inch.

6. Lime which has perished or which has been damaged by damp, rain or inter mixture of dirt, or which has become partially air-locked, shall on no account be used on the works but shall be removed at once from the site. Lime which given a residue of more than 10 percent by weight when tested hydrochloric acid shall be rejected.

7. Lime is to be obtained from the source defined in the Descriptive Specification sheet.

8. The Lime at work site is to be protected from weather action by being kept in a weather proof shed with impervious floor and sides.

9. When time permits, the following test is to be made for stone limes : The lime to be tested shall be passed through a sleeve having 64 meshes per square inch. Briquettes shall be made of 1 lime 2 sand adding sufficient water to the lime till a stiff paste is formed, this stiff paste is to be well pressed down into the mould, which is to rest on a sheet of glass. The upper surface of the
mortar in the mould shall be struck off level with a trowel. The mould shall then be laid aside till the briquette attains initial set. After this period, the briquette (still in the mould) shall be placed in wet sand for two days to allow it to get gradually. It shall then be taken out of its mould, placed in water for 25 days taken out and allowed to dry for 24 hours and then finally tested. The briquette, which is to have cross sectional area of one square inch, should take a minimum tensile strain of 20 lb. If less than this the Engineer in Charge shall have the right to reject the lime, and the contractor shall then remove the rejected materials at once from the work site.

NOTE : The two general classes of lime are :

(a) Fat limes : and (b) Hydraulic limes. Shell lime comes under class (a) and is largely used for plaster and whitewash limes from kankar and limestone come under class (b) and should always be used for masonry work unless written permission of the Engineer in Charge has been given to the use of shell lime. Non hydraulic lime mortar should not be used in well locations. Works which are likely to be exposed to the action of water within a month from date of completion should be constructed with a cement mortar or a surki mortar if the latter is found to be sufficiently hydraulic.

10. Vide instruction in note 2 under 'Materials'. which shall apply.

### DESCRIPTIVE SPECIFICATION SHEET

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Materials</th>
<th>Sources from where item is to be obtained</th>
<th>Approximate Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sand for mortar</td>
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</tr>
<tr>
<td>2.</td>
<td>Sand for Filling</td>
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<tr>
<td>3.</td>
<td>Hard broken stone of different sizes Rough Stone and Bond Stone</td>
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<tr>
<td>4.</td>
<td>Brick, Brick jelly flat titles, square titles, pressed titles etc.,</td>
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</tr>
<tr>
<td>6.</td>
<td>Gravel</td>
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<td>7.</td>
<td>Lime</td>
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<td></td>
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<tr>
<td>Sl. No.</td>
<td>Name of the Paint Company</td>
<td>Brand Name of the Paint class</td>
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<tr>
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</tr>
<tr>
<td>1.</td>
<td>British paints</td>
<td>Parrot</td>
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</tr>
<tr>
<td>2.</td>
<td>Asian paints</td>
<td>Three Mangoes</td>
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<tr>
<td>3.</td>
<td>Goodlass</td>
<td>Glossolite</td>
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<td>4.</td>
<td>Jonson and Nicholson</td>
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<td>Shalimar</td>
<td>Durolac</td>
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<td>I. C. I</td>
<td>Duwel</td>
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<tr>
<td>7.</td>
<td>Blundel</td>
<td>Kinglac</td>
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## SCHEDULE 'B'

### LIST OF DRAWINGS

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<thead>
<tr>
<th>Serial Number</th>
<th>Drawing Number</th>
<th>Description</th>
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<td>Scheme layout</td>
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<tr>
<td>2)</td>
<td></td>
<td>Type design</td>
<td>- 1 No.</td>
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