

Schedule 'C'**Additional Specifications**

1. The Contractor shall make his own arrangements for clean, fresh water for use on the work and shall meet all charges therefor.
2. All iron work or steel work of everykind, except such as is to be embedded in cement concrete shall immediately on arrival at the site be properly scrapped and wire brushed and given a priming coat of redlead paint without claim for extra.
3. The Teak Wood shall be of best Indian Wood only and the country wood shall be species like Pillamardu or Kariamarudhu only and shall be subject to inspection and approval by the Executive Engineer before use on work.
4. Holes and chasis for electric wiring, water supply and drainage etc., shall be provided as directed during the progress of work without claiming any extra charges.
5. All external corners, edges of beams, edges of door and window openings etc., shall be finished with chamber and also truly vertical or horizontal as the case may be. The rate of plastering shall include the cost of finishing as above. No extra for finishing the corners, edges etc., will be paid.
6. The arrangements for MS rods for reinforcement for each RCC work shall be in accordance with the working drawings supplied.
7. The planks for forms and centering for RCC work shall be of well seasoned timber approved by the Executive Engineer according to sub clause 10 of T.N.B.P. No. 30. They must be made smooth and perfectly level at top so as to give a smooth and even finish to the R.C.C. Ceiling. Alternatively, the contractor may use steel sheets over wooden frame provided, the required finish to the underside of the slabs is obtained. Mango planks shall not be used under any circumstances. Centering and form works shall be provided to the extent and area ordered by the Executive Engineer during the execution. Finishing shall be done as per sub-clause 15 of TNBP No. 30.
8. All cement concrete for RCC works shall be machine mixed and vibrated
9. All lime mortar shall be grinded in a mortar mill as per TNBP.
10. The rates for brick work in all the floors includes the labour charges for fixing the frames of doors and windows and fixing G.I. pipes outlets for windows as per sub-clause 14 of TNBP No.31.
11. The rate for plastering includes providing cornice, band cornice, ceiling cornice and skirting wherever necessary as directed by the Department officers.
12. It is not obligatory to supply any materials (Controlled or non-controlled) required for the constructions. The contractor is expected to make his own arrangements. The quality of these materials should confirm with the specification given in ISI. Ordinary Portland Cement 43 Grade grey colour SRC if necessary based on site condition (without any extra cost) confirming to IS Specification should be used. Steel rods should also confirming to ISI.
13. Steel rods should be cut and placed as reinforcement with proper anchorage to the available rods at site so as to ensure the minimum wastage possible.
14. The cement brought by the contractor for use should carefully stacked in approved stores and on works as and when required the proper care so as to ensure the minimum wastage possible.

15. All the dismantled work should be made good plastered and cement painted to match the original surface.
16. For all RCC works the rate shall include the treatment of bearings as per plan of TNBP. No extra payment will be made.
17. If the rates are not separately called for, similar items of works in different floors, the contractor should quote, one rate applicable for all the floors indicated in the detailed plans, any claims for extra rates for such items floorwise will not be entertained under any circumstances.
18. The contractor should not employ the labour below the age of twelve years.
19. If night work required to fulfill the agreed rates of progress, all arrangement shall be made by the contractor inclusive of lighting without any claim for extra rate.
20. Lead for materials : The lead furnished for the various materials are approximate only. No increase in rates shall become payable to the contractor if the actual lead for any of the materials is found to be more than that specified in descriptive specification sheet.
21. Rates :- The tenderer shall quote their rates for the finished item of work only as given in the schedule it shall be clearly understood that no increase in the rates tendered for will be permissible on any account after the tenders are accepted.
22. The rate for all the items shall be quoted for in the metric units.
23. The tenderer shall examine closely the General conditions of contract of the Tamil Nadu Details Standard Specifications issued in the G.O. Ms. No.2659, dated 23rd December 1970 and sign the copy kept in the office into taken of such study before submitting his tender. Unit rates which shall be for finished work insite.
24. The electrical works should be executed by a person or firm holding 'A' grade or 'B' grade licence issued by Electrical Wireman, Supervisor, Contractors, Licensing Board and Government of Tamil Nadu.
25. Once the offer of the tenderer is accepted by the TNPHC, if either the tenderers choose to withdraw this tender or for any reason refused to execute the agreement and comply with the terms of the tender and agreement, the amount deposited by the tenderer towards the EMD and A.S.D. shall be forfeited and tenderer shall not be entitled to refund the same.
26. The contractor should take risk insurance against fire, other usual risk for all or any loss or damages occasioned by or arising out of acts of God, and in particular un precedented flood, volcanic corruption, earth quake or other convulsion of nature, invasion, the act of foreign enemies, hostilities or warlike operations (before or after declaration of war) rebellion, military or usurped power, such policy should cover the construction period against the risk by the construction at his / their own cost and produce to the concerned Executive Engineer / Superintending Engineer within one month from the date of execution of the agreement failing which the TNPHC shall be entitled to take out what ever policy as may be required to cover those eventualities and to effect recovery towards the cost of such policies from the contractor's payments with a penalty of 50% on the cost of such policies.
27. Water closet, basins, urinals, sinks and other sanitary ware shall be of approved make as required in the relevant items. The fixing of these should be in accordance with the special specifications after the completion of the work.
28. The clamps of G.I. pipes fittings should not be spaced more than 6' part from the wooden plug for pipe and bracket fittings should be properly fixed in C.M. 1:3 in hoes made in and not hammered into the walls. The size of plugs should be not less than 1" square at this end and at the other end with the depth of not less than 3".
29. The contractor should procure approved quality of paint only in containers. The above container should be used in the present of the Assistant Executive Engineer and got approved before use. On any account paint in other than original container will not be allowed for use.

30. Recovery under Revenue recovery Act: Whenever any amount has to be paid by the contractor in view of termination of the contract by virtue of clause 57.4 (TNBP) or any amount that may be due or may become due from the contractor under these present and the contractor is not responding to the demand for the payments of the said amount, then the TNPHC Ltd. shall be entitled to recover the said amount as per the provisions of the Tamil Nadu Revenue Recovery Act, 1964 (Tamil Nadu Act. V of 1864).
31. The successful tenderer should convert his / their EMD in the shape of small savings scrips if it is the any form other than cash receipt.
32. The contractor should note their sales tax registration certificate No. in the tender form and produce sales tax clearance certificate from the Commercial Tax department of this State before final settlement of contracts.
33. Any extension of time may not be granted by the authority unless the delay is caused by the Department.
34. The contractor is bound by all the condition of clauses of standard General condition of contract as amended time to time if is the course the contract, any G.O. is issued introducing new condition or clauses (for PWD / Other department). Supplemental Agreement must be executed by the contractor for implementing the condition.
35. In the event of the work transferred to any other unit Division the Executive Engineer / Assistant Executive Engineer who is in charge of the units / Divisions/ Sub - Divisions having jurisdiction over the above shall be competent authority to exercise all the powers and privilege of TNPHC and to act on behalf of TNPHC.
36. The contractor shall form his own approach road to the work sites for which no extra will be due to him. On completion of work the contractor shall not be permitted to remove the materials laid for the formation of road. If the contractor is allowed to use the existing roads, he shall maintain them in good condition on at his own cost throughout the period of contract.
37. The work should be executed in accordance with the circular instruction of the Chief Engineer issued time to time. Copy of the circular instruction can be perused in the department office during office hours.
38. During the course of contract period deductions of Income Tax shall be made as per the provisions of the Income Tax Act amended from time to time as applicable.
39. Sales tax levy of sales tax on construction contracts, all the rates quoted in tender shall be inclusive of sales tax payable under general sales tax act amended from time to time and that the contractors are responsible to file the sales tax return and contractor is responsible to pay the amount as demanded by C.T. Department. No request for payment of sales tax separately in addition to tendered rates due to and plea of subsequent levy or increase in tax will be entertained.
40. Royalty / seigniorage charges due for use of any quarry land shall be paid by the contractor.
41. The contractor should be responsible for the safe custody storage of materials under dry conditions at the place of work spot approved by the Executive Engineer.
42. The contractor should abide by the contractor's labour regulation of PWD framed by Tamil Nadu.
43. The contractor who furnish EMD in the shape of Indira Vikas Patras should note their name in the backside of IVP and also they should enclose a letter with their tender noting the registration number of IVP's enclosed with the tender.
44. Impounding minimum 10 cm of water over roofs for 48 hours before laying the weathering course and pressed tiles to check the water tightness.
45. Xerox copy of the certificate for the technical personnels to be enclosed along with the tender.

TAMIL NADU POLICE HOUSING CORPORATION LTD.**SPECIAL CONDITION**

1. The tree planting work should be commenced within a fortnight from the date of execution of agreement.
2. Maintenance period : Six month is to be taken into account from the date of completion of tree planting.
3. If any damages occur to the planted trees, those trees will have to be replaced and maintained for six month. The maintenance period of six month for those trees will be taken into from the date of replacing of the damaged trees with freshone.
4. Only one variety of trees should be planted.
5. Flame of forest, rain trees, margosa and other trees as directed by department are to be planted.
6. 30% of payment will be made soon after planting of trees and the sign of life in them is seen. The balance 70% will be made in the period of six month on Quarter years payment as follows based on the satisfactory progress of the trees growth.

I Quarter Year 35%

II Quarter Year 35%

CONTRACTOR

NO. OF CORRECTIONS

SUPTG. ENGINEER / H.Q.

SCHEDULE 'D'

Applicable to all cases of work where a minimum of fifty workers are employed except works relating to roads, Channels and Canals.

For the provision of health and sanitary any arrangements for workers:

The Contractor's special attention is invited to clauses to the General conditions of contract of Tamil Nadu Building Practice and he is requested to provide at his own expense the following amenities to the satisfaction of the Chief Engineer.

1. First Aid:

At the work site there shall be maintained in a readily accessible place, first aid appliances and medicines including adequate supply of sterilised dressings and sterilised cotton wood. 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 workings hours.

2. Drinking Water:

- a. Water of good quality fit for drinking purposes shall be provided for the work people on a scale of not less than 15 litres per head per day.
- b. Where drinking water is obtained from an intermittence public water supply, each work place shall be provided with storage tank where such drinking water shall be stored.
- c. Every water supply storage shall be at a distance of not less than 15 metres 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 wells shall be entirely closed it and be provided with a trap door which shall be dust and water proof.
- d. 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 atleast once a month.

3. 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 same as directed by the Chief Engineer in any particular case.

	Seats
i. Where the number of person employed does not exceed 50 persons	2 nos
ii. Where the number of persons employed exceed 50 but does not exceeds 100	3 nos
iii. For every additional 100	3 nos

If womens are employed separately 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 latrines shall be provided with receipt table on dry earth system which shall be cleaned atleast four times daily and atleast twice during working hours and kept in a strictly sanitary conditions. The receiptance shall be tarred inside and outside atleast once a year.

4. 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.

The excreta from the latrines shall be disposed off at the contractor's expense to the out way pits approved by the local public health authority. The contractor shall also employ adequate number of scavengers and conservancy staff to keep the latrines and urinals in a clean conditions.

5. 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 for rest fit for the use of labourers.

6. At every work place at which 50 or more women workers are ordinarily employed there shall be provided two huts of suitable size for the use of children under age years belonging to such women. One 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.

- i. Thatched roofs
- ii. Mud floors and walls
- iii. 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.

7. Canteen:

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

8. Shed for Women:

The contractor should provide at his expense shed for housing his workman. 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. A foot area of about 6'x5' for 2 persons shall be provided. The sheds are to be in rows with 5 feet clear space between rows if conditions could permit. The work people shall be laid out in units of 400 persons unit to have a clear space of 40 feet all round.

TAMIL NADU POLICE HOUSING CORPORATION LTD.,

ADDITIONAL CONDITIONS OF TENDER AND AGREEMENT

1. Once the offer of the tender is accepted by the Corporation, if either the tender chooses to withdraw his tender or any reason refused to execute the agreement and comply with the terms of the tender and Agreement the amount deposited by the tenderer towards EMD and ASD shall be forfeited and the tenderer shall not be entitled for the refund for the same.
2. The contractor shall take risk insurance at their own cost against losses due to floods and other acts of God. No claim from the Contractor shall be entertained by the department for such losses.
3.
 - i) Earnest Money Deposit : 1% (one) upto Rs.20.00 lakhs of estimate value plus 1/2% (half) of the amount by which the estimated value exceeds Rs. 20.00 lakhs
 - ii) Security Deposit : Will be 2% (two) of the contract value minus the E.M.D. already remitted alongwith the tender
 - ii) Retention Money Deposit :
 - a) At 5% (five) shall be recovered from the each bill based on the value of work done by other than standing contractors.
 - b) At 2% (two) shall be recovered from the each bill based on the value of work done by standing contractor.
4. 50% of retention money deposit amount recovered from the bills would be paid to the contractor after completion of two years period from the date of completion of the building. Subsequently the contractor has to given a written undertaking in the form of an 'Indemnity Bond' for a further period of three years to the effect that the building contract would be structurally sound and if at all any defects noticed during that period it would be rectified at the contractors expenses. The E.M.D., A.S.D. and 50% of RMD shall be released only after the expiry of six months from the date of completion of work.
5. **DEDUCTION OF SALES TAX ON WORKS CONTRACTS**
 1. The Government of Tamil Nadu by act of 1999 has introduced section 7F to the Tamil Nadu general Sales Tax Act 1959 where in provisions have even introduced for "Deduction of Tax at Sources in works contract" at the time of payment.
 2. According to Section 7F of the TNGST Act 1959, every persons responsible for paying any sum to any dealer for (From the dealers/contractors) at the time of payment.
 - i) Civil works contract : 2% of total amount payable to such dealers / contractors
 - ii) All other works contract : 4% of the total amount payable to such dealers / contractor.

The amount so deducted shall be deposited to the Assessing Authority of Commercial Tax Department within 7 days of the amount so deducted along with a statement in the prescribed form (XXXVII)
6. A levy towards the Tamil Nadu manual workers welfare fund at 0.30% of actual value of workdone in the contract would be imposed in them which would be recovered from them as and when bills paid to the contractor. (G.O. Ms. No. 80, Labour and Employment Department, dated 5.6.97)
7. In the case disputes for claims upto Rs. 50,000 /- the Chief Engineer, Tamil Nadu Police Housing Corporation Limited, shall be final deciding authority. In case of claims exceeds Rs. 50,000/- it should be referred to court.

8. If the contractor quotes unworkable rates in the tender, special additional security deposit will be levied at the discretion of the Chief Engineer, Tamil Nadu Police Housing Corporation apart from usual deposits.
9. It is obligatory on the part of the contractor to recover the Employees Provident Fund Subscription from the Employees who work for more than 60 days and remit to the Regional Provident Fund Commissioner.
10. All the dismantled work should be made good to match the original surface.
11. The contractor shall make use of kiln burnt ground moulded country bricks/stock bricks of clear designation so having average compressive strength of 35 kg/cm² of country bricks and 50 kg/cm² for chamber Burnt / stock bricks
12. The testing shall be done by the contractor at their own cost of the materials such as cement, sand, bricks, steel, pressed tiles, water, etc., & the finished products like concrete cubes. Every consignment of cement and steel supply should be tested for quality at contractors own cost.
13. In case of tender at 10% less than the estimated value, 1% (one) of the estimated value shall be collected in one lumpsum as additional security deposit.
14. The Contractor shall make their own arrangements for the levelling instruments at site of work.
15. It is obligatory on the part of the successful tenderer that they should upgrade their registration in the appropriate class from the department where they have registered as registered contractor as per rules inforce before concluding the agreement.
16. The contractor shall make their own arrangements to procure and use the cement and steel (as per I.S. standards and its latest amendment from time to time) required for the work.
17. The cement brought and used by the contractor should confirm to ISS No.269 of 1976 and steel should confirm to IS No. 432/64 and 1786/79 (Its Latest amendment if any), It should be clearly understood that the rate quoted by the contractor is inclusive the cost of 43 grade ordinary portland cement SRC if necessary based on site condition (without any extra cost) and steel and other incidental charges such as conveyance, loading, unloading, stacking at site and testing charges etc. complete.
18. The contractors shall produce test certificate obtained from any one of the Government institutions for cement and steel brought to site. As and when required by the department the cement and steel brought to the site shall be tested by the department from any one of the approved Government institutions and only when the test results confirm to the ISI specifications they will be allowed to be used in the works.
19. The tender shall be valid for a period of sixty days (for non Prequalification) from the date of opening of tender.

SPECIAL CONDITIONS FOR SENDING THE CEMENT CONCRETE CUBES FOR TESTING

The contractor should make arrangements for getting mould to the site for casting of cubes for testing of concrete strength.

1. Mould : The concrete mould' should be as per IS Specification (IS-516-1959) the details of which are as follows :

The mould shall be of metal, preferably steel or cast iron, and stout enough to prevent distortion. It shall be constructed in such a manner as to facilitate the removal of the moulded specimen without damage and shall be so machined that when it is assembled ready for use, the dimensions and internal faces shall be accurate within following limits.

The height of the mould and the distance between opposite faces shall be the specified size $\pm 0.2\text{mm}$. The angle between adjacent internal faces and top and bottom planes of the mould shall be $90^\circ \pm 0.50^\circ$. The interior faces of the mould shall be plane surface with a permissible variation of 0.03 mm. Each mould shall be provided with a metal base plate having a plane surface and to support the mould during the filling without leakage and it shall be preferably attached to the mould by springs for screws.

The interior surfaces of the mould shall be thinly coated with mould oil to prevent adhesion of the concrete.

2. Compacting : The concrete shall be filled into the mould in layers approximately 5 cm. deep. Each layer shall be compacted either by hand or by vibration as described below (as per ISI)

When compacting by hand, the standard tamping bar shall be used and the strokes of the bar shall be distributed in a uniform manner over the cross section of the mould as prescribed in I.S.I. and for cubical specimen in no case, shall be concrete be subjected to less than 35 strokes per layer for 15 cm cubes (as per I.S.I.)

When compacting by vibration each layer shall be vibrated by means of an electric or pneumatic hammer or vibrator (as per I.S.I.).

3. The concrete cubes shall be cured for 28 days and send on 29th day. If the day falls on a holiday the cubes shall be sent on the next working day.
4. All the charges connected with the cube testing etc. shall be borne by the contractor.
5. If the concrete cube is found to be of lesser strength then reduction in agreement rates shall be adopted as per the powers delegated to Executive Engineers.
6. For working out the reduction of rates the following procedures will be adopted.

When the strength of cubes tested is between 75% and 100% of the following strength the agreement rates should be reduced proportionately to the allowable strength of concrete (e.g.) Concrete mix C.C. 1-:2:4 (150 Kg/cm²) cube strength achieved during testing - 120 Kgs (ie) above 75%

7. When the strength of cube tested falls below 75% of the allowable strength, the R.C. Component from where the cube samples are collected shall be rejected. However as an additional check, non-destructive test will be conducted through recognised institutions like Anna University etc., whether the concrete component can be rejected or reduced rate to be adopted will then be decided. However for working out the reduced rate, the cubes strength value only should be taken and worked out as given in para (6) above.

CONDITIONS OF EMPLOYING TECHNICALLY QUALIFIED PERSON

Technical qualified man should be employed as follows

Sl.NO.	Value of Contract	Qualification and No. of Technical Assistants to be employed
(1)	(2)	(3)
1.1	Upto 1 lakh	No Technical Assistant need be employed. However, if the officer who accepts the agreement, feels that the nature of work required a Technical Assistant conditions may be stipulated in the tender notice that one diploma holder in Civil Engineering or a retired Junior Engineer may be employed.
1.2.	Rs. 1 Lakh to Rs. 3 Lakhs	One Diploma holder in Civil Engineering or not less than one retired Junior Engineer.
1.3.	Rs. 3 Lakhs to Rs.10 Lakhs	One B.E., (Civil) or equivalent degree holder or not less than one retired sub-divisional officer (Assistant Executive Engineer or Assistant Divisional Engineer)
1.4.	Rs.10 Lakhs to Rs. 25 Lakhs	One B. E., (Civil) or equivalent degree holder with three years experience in Civil Engineering works not less than one retired sub-divisional Officer plus one Diploma holder in Civil Engineering.
1.5.	Rs. 25 Lakhs to Rs.50 Lakhs	One B.E., (Civil) or equivalent degree holder with three years experience or not less than one retired sub-divisional officer (retired Assistant Executive Engineer) plus two Diploma holders in Civil or two retired Junior Engineers.
		ALTERNATIVE 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.
1.6.	Above Rs.50 Lakhs	To be examined in individual case depending on the nature of work and the technical skill involved and defined in the Tender Notice regarding the number of qualified technical person to be employed by the contractor.
2.	A penalty of Rs.500/- p.m. for Diploma holder and Rs.1,000/- p.m. for Degree holder be levied in case of default on the part of contractors in following the norms laid down above.	
3.	The employment of Technical Assistant could be based only on the value of contract. Engineers with Mechanical Engineering Qualification and retired from Civil Engineering department are also suitable to supervise the Civil Engineering works because of their experience in Civil Engineering field.	

** I am / we are professionally qualified and my/our qualifications are given below.

NAME	QUALIFICATION	EXPERIENCE
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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 work that paying extra attention to such works is required special attention (e.g.) reinforcement concrete work.

Name of member of technical staff proposed to be employed	QUALIFICATION	EXPERIENCE
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In deciding the period of absence, the certificate from the Assistant Exe. Engineer in-charge of the work Counter signed by the Executive Engineer - incharge shall be taken as the conclusive evidence and I/we shall be bound by such a certificate.

** Note :

1. In case of contractor, who is professionally qualified is not in a position to remain always at the site of the work during working hours personally checking all items of work and paying extra attention to such works as may demand special attention. (e.g.) R.C. work etc., he should employ technically qualified men (as prescribed for the work)
2. The Tenderers should score out the last clause if they are themselves professionally qualified and undertake to employ technical staff under them.

LIST OF APPROVED BRAND OF PAINT TO BE USED FOR PAINTING WORKS

I Class	Brand Name of the Paint	II Class
Luxol Hi-Gloss	Berger Paints	Butterfly G.P.
Apolite	Asian Paints	Three Mangos
Nerolac	Good Lass	Clossolits
Robbic Lac	Johnson & Nieholson	Jensolin
Superlac	Shalimar	Duralac
Dulux	I.C.I.	Duwel
Pammell	Blundel	Kinglac

TAMIL NADU POLICE HOUSING CORPORATION LTD.,

SPECIAL CONDITION FOR 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 installation I.S. 732-1963 & I.S. 3043-1964 and as amended upto date. All installation shall comply with the requirements of Indian Electricity Rules 1956 & Act and I.S. Code amended upto 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 work by the contractors, based on the approved brand of materials list enclosed in the tender. The choice of brand of materials from the approved list is at the discretion of the Engineer-in-charge and his decision will be final. The Contractor is bound to use the brand of materials selected by the Engineer-in-charge.
3. Bad workmanship is liable to be rejected in to.
4. The contractor shall supply on completion of work completed plan along with insulation polarity and earth tests reports before the installation is handed over to the Engineer in-charge in good condition in triplicate. The tests should be carried out in the presence of Engineer in-charge at contractors cost.
5. All repairs and patch work 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 arrangement at his own cost for all general T&P and spl. 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 the installation (completed work) is handed over to the Department after obtaining service connection from Electricity Board and testing the line. Any loss and tampering of materials for which the payment was made by the Department will be made good by the contractor at his own cost.
8. Issue of the materials to the contractor wherever stipulated will 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 work and the safe custody till completion of the job is the responsibility of the contractor.
10. All the 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 burying of conduits for recessed portion shall be planned together with the building progress so that there is no hinderance to the buildings 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.
13. The wiring route shall be marked at site first and get approval from the Engineer-in-charge before commencement of actual work. The work must be carried out as directed by Engineer-in-charge.
14. PVC wiring shall be neatly painted with two coats for non-cracking paint/distemper suitable for painting PVC wire and of suitable colour to match the surroundings as per the direction of Engineer-in-charge.
15. In place where electrical conduit is required to pass 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 the later date.

16. The T.W. materials such as fillets specials TW boxes and all materials shall be got approved from the Engineer-in-charge before use to ensure the quality of materials.
17. In the case of recessed conduit works, the MS boxes shall also be recessed and covered with 1/8" (3mm) hylam/ Bakelite sheet. The thickness of MS sheet shall not be less than 3 mm thick.
18. Provision of fittings.
 - a. All switch Board shall be so placed that the bottom is normally 1.22 meter above floor level of such height as decided by the Engineer-in-charge.
 - b. All fittings shall be provided at 2.6 metre from the floor level or such height as decided by the Engineer in-charge.
 - c. The convenient 5/15 Amps. Plug socket shall be 25cm. above the floor level or such height as decided by the Engineer in-charge.
 - d. Wiring shall run normally at 2.6 metre from the floor level or such height as decided by the Engineer in-charge.
19. The materials issued if any by the Department to the contractor, the cost will be recovered at the stores issue rate. 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.
20. Tools and plant General and Spl. as required on the work is to be arranged by the contractor at his own cost.
21. Brass tinned like/joint clips of 0.32 mm (30 gauge) thick upto 40mm length and 0.40 (28 gauge) thick above 40mm length and of width shall be used on the work.
22. Brass hinged brass hooks and eyes, single plank teak wood boards of 60mm minimum depth in case of open wiring and minimum depth of 100 mm in the case of concealed wiring and not less than 6.5 mm thickness shall be used to the works.
23. Fixing of wooden batterns .
 - a . The Screws shall be used for fixing the wooden battern and accessories at an interval not exceeding 50cm. The thickness of battern shall be less than 10mm.
 - b. The clips are provided on the wooden battern with screws/pains and spaced at an interval of 15cm both in the case of horizontal and vertical run.
 - c. Round block shall not be less than 75mm dia and 40mm deep and fixed by means of 2 nos. of screws.
24. Piano type switches outlet of approved make wherever needed shall be used for recessed boards after getting the approval of Engineer in-charge
25. Only brass screws shall be used for fixing fittings switches plugs and sockets main boards and distribution board and T.W. accessories etc., required for the, wiring.
26. All conduit pipe shall be approved gauge (not less than 16 SWG : 14SWG) solid drawn of lap welded finished with galvanised stone enameled finished. The saddless used shall not be less than 24 gauge upto 25mm dia pipes and not less than 20 gauge for inner dia pipes.
27. The main earthening shall not less than 8 SWG copper (4.06mm) in case of copper wire earthening or 6 SWG.GI wire (4.98mm) in case of G.I. wire earthening. Separate earthing shall be provided for all mountings of rain Boards, distribution boards, 5/15 ams. C.S. plug sockets with not less than 14 SWG of copper (2.03 mm)

28. Earthing shall conform to relevant I.S. Code 3043-1966, the G.I. Pipe earth electrode system is adopted G.I. pipe shall be of medium class 38/40mm dia. 3.75 metres long. The electrode/ shall be burried in the ground vertically with its top not less than 20 cm. below ground level. Normally an earth electrode shall provide 1.5 metres away from any building,, In case of providing twin earthing the distance between the earth pits shall be 10 feet. Alternate layers of charcoal or cock and seal of minimum 15 cm thick are to be provided from the bottom of earth pit upto 1 metre below ground level and the masonry work is to be carried out in brick with the cement mortar 1:4 above the last layer and the top is to be covered by Suitable cast iron frame and cover.
29. The staircase light point wiring must be done by looping or piece wire system and which must control phase or live wire only.
30. Looping in system is to be adopted for wiring. Normally the looping of neutral of light, fan, plug points etc. should be restricted to 3 points for a single wire from the switch board.
31. The wooden batten and specials shall not butt jointed and joints should be lap jointed.
32. The wiring must be done using bend and corners wherever necessary sharp bending or cable must be avoided.
33. The lighting circuit shall not have more than 10 point or a load of 800 watts whichever is less.
34. Power wiring shall be kept separate and distinct from the lighting wiring.
35. The contractor should be present at the premises at the times of effecting service connection by the Electricity Board authority and afford all facility for testing and commissioning the installation.
36. The contractor should provide sufficient leads for connecting the main switches to meters and cut out provided by the Electricity Board at his own cost.
37. The apartment main switches and the main switches at the Electricity Board service connection boards should be numbered in paint for easily identification and the danger boards should be provided wherever necessary according to I.E Rules and Act regulations.
38. 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 board wherever necessary to avoid short circuiting the system.
39. The scaffolding and the shed required for the electrical installation works should be put up by the contractor at his own cost.
40. The run of main relates to the mains run from the main switch provided inside the apartments to the main switch provided for service connection by the Electricity Board authorities. The Distribution Box used shall be metallic enclosed type with fuse unit and neutral link. The earthing for the, main switches provided in the service connection Board should be properly interconnected and connected to the main earthing system.

TAMIL NADU POLICE HOUSING CORPORATION LTD.,
LIST OF ELECTRICAL MATERIAL AND APPROVED BRAND TO BE USED FOR
ELECTRICAL INSTALLATION WORKS

1. PVC Sheathed/Unsheathe
Copper cable 1100V : Q-Flex, Mercury, Omega, H.I.Q., Roopa,
Havells, Jaimax Gold, Anchor with ISI Mark
2. Flush type switches, plug sockets : Record, Anchor, Leader, with ISI Mark
power plug sockets staircase switches,
bell push switches and ceiling rose,
battern holder etc.,
3. Double / triple pole main switches : Standard, Havells, Zeta, HPL, Gem, Roopa, Sputnik
4. Distribution boards (rewireable type) : Gem, Havells, Zeta, HPL, Roopa, Sputnik
5. Consumer unit with rewireable : Zeta, Roopa
main switch and distribution
fuse unit for use in inside
apartment other complexes
6. a) Miniature circuit breaker
b) Miniature circuit breaker : Mds. Indo, Kopp, Havells, Standard, Datar
distribution board
c) Consumer unit with MCB isolator for
incoming and miniature circuit breaker for
distribution circuits for inside complexes
7. Bulkhead fittings : K-Lite, Mundra, Flourocrafft, Gloite, Bajaj,
Philips, Crompton Greaves
8. PVC Electrical conduit heavy guage pipe : Avon Plast, Mercury with ISI mark
9. Hylem sheet : 3mm thick with lamination
10. Light fittings : Phillips, Bajaj, Genelack, Crompton-Creaves,
HMT, Mysore lamp, Roopa, Anchor.
11. Ceiling fan : Usha, Crompton, Orient, Almonard, Khaithan,
Polar, Rally, Kedia, Roopa, Anchor.

TAMIL NADU POLICE HOUSING CORPORATION LTD.,

No. 1, Whites Road, Madras - 14.

Special Condition for providing random rubble masonry works with required bond stones.

- 1.1 An interlocking arrangement of structural units in wall to ensure stability is called bond. Selected long stones used to hold a wall together transversally is called bond stones or "Through stones".
- 1.2 Through Bond stones shall be provided in walls upto 60mm thick and in case of walls above 60mm. thickness a set of two or more bond stones overlapping each other by atleast 15cm. shall be provided in a line from face to back. In case of high absorbent type of stones (Porous lime stone and sand stones etc.) the bond shall be extended about two third into the wall as through stones in such cases may give rise to damp penetration and therefore for all thickness of such walls a set of two or more bond stones overlapping each other by atleast 15 cm shall be provided. Each bond stone or a set of bond stones shall be provided for every 0.5M² of wall surface.
- 1.3 The requirement regarding through or bond stones shall be same as far random rubble masonry but these shall be provided at 1.5m to 1.8m apart clear in every course, but staggered at alternative course,
- 2.1 The fig. (1) below illustrate the uncoursed type of masonry constructed of stones as they came from quarry. The mason selects blocks of all shapes and sizes more or less at random and place them in position to obtain a good bond while rechieseling curing of the stones to the removal of inconvenient corners with a scabbing or spalling hammer. In the case of course type, the walling is similar to uncoursed random rubble except that the work is wrongly leveled upon course at intervals varying from 30cm to 90cm in height according to the locality and the type of stones used.
- 3.1 In the case of foundation basement using Random rubble masonry the bond stone arrangements can be done as per the figures shown below. The following are the guidelines to be followed.
 - a. All the bond stones should be given a distinct / point mark to be seen from outside the building and to identify the location of the bond stone even after the completion.
 - b. The coners of the masonry should be well chiseled and dressed for a minimum width of about 25mm (1") corner and 90° turning at junctions.
 - c. Care should be taken in filling the voids in between the stones (i.e. the filling stones) should be placed vertically before mortaring the joints.
 - d. The filling joints should be with minimum quantity of mortar.
 - e. For rubble masonry works (Foundation and Super Structures) the Practice should be followed as per respective codal procedures and specifications.

CONTRACTOR	NO. OF CORRECTIONS	SUPTG. ENGINEER / H.Q.
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BOOKLET : 3

Contain Pages : 34 (Thirtyfour only)

**(Other Terms & Conditions of the
Tender including Drawings)**

**NOTE : THE MENTIONED WEIGHTS ARE APPROXIMATE
WHICH EXCLUDES PVC DESIGNED SHEET PANELS
BUT INCLUDES STEEL GRILLS, FRAMES, HINGES
AND HANDLES ETC.**

PVC
DESIGNED
SHEET
PANEL

PVC DESIGNED
SHEET PANEL