



**SOUTHERN RAILWAY
ELECTRICAL GENERAL BRANCH
TIRUCHIRAPPALLI DIVISION**

Name of the work - Tiruchirappalli Division: Zonal work contract for electrical works for a period of one year (2026-27)

Issued By:

**Senior Divisional Electrical Engineer/General Service
Southern Railway, Tiruchirappalli .
(For and on behalf of the President of India).**

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1.0 SPECIAL INSTRUCTIONS FOR ZONAL CONTRACT

1. This zonal contract is annual agreement shall includes, new works, additions and alterations, Maintenance to existing installations, repair works subject to a value of each such work not exceeding Rs 5 Lakhs per case.
2. Agreement will be executed for the awarded contract value for the proposed period of contract and Work order not exceeding Rs 5 Lakhs per case will be issued to carry out the work. Contractor has to carry out the work as per the work order.
3. Any Works, detailed in **Central Public Works Department, Delhi Schedule of Rates (E&M)-2025** to be executed as per the “**Central Public Works Department, General Specifications For Electrical Works, Part – I, Internal - 2023**” addition to “**Chapter wise Conditions for opting CPWD General Specification for Electrical works Part-I, Internal-2023 over Indian Railways**” and NS-Items as per the specification enclosed.
4. The tenderer shall quote a rate at “ par “or a collective percentage “ above “ or “below” to the advertised tender value.
5. The total cost given in the schedules is only approximate and may vary according to the site requirement.
6. Separate work orders, based on the need of the administration arised during the contract period within the jurisdiction pertaining to this contract will be issued by the competent authority covering items from various chapters of the above said Delhi schedule of rates and percentage rate accepted is applicable for all items of all chapters of DSR as specified in the schedules. Contractor is binding to accept such work orders issued during the contract period but within the contract value prescribed.
7. In case, contractor fails to complete any work under one or more work orders, Railway reserves the right to terminate those work orders only instead of entire zonal contract and those works can be got executed by any other means by the Railway and the difference of cost or actual loss to the administration shall be recovered from any dues of the contractor from the Railway or any other department.

2.0 GENERAL CONDITIONS OF CONTRACT

1. This is a works contract. The special conditions of contract (both General and Technical) should be read in conjunction with the Indian Railways Standard General Conditions of Contract (GCC, April 2022) along with correction slips. The GCC, April 2022 is also uploaded along with this document. The said GCC, April 2022 along with the Amendments/correction slips issued from time to time shall be binding on the contract.
2. **Mode of payment:** Payment will be arranged only through Electronic Fund Transfer System. Tenderers should furnish the details in Electronic Fund transfer mandate form attached (Annexure– 7) with the tender document. Payment will be arranged through the Senior Divisional Finance Manager, Southern Railway, Tiruchirappalli. No advance payment will be made against this contract.
3. **Contract value:** The contract value quoted shall be inclusive of all taxes, GST and duties etc. The accepted contract value must be firm till the completion of works.
4. Income Tax, GST/other taxes, if any, as applicable will be deducted from Contractor's bill at the percentage notified by the government.

5. Railway Conservancy Charges will be recovered as per Railway Board Letter No:F(X) 1/95/1/1 dated 07.09.2021

Avg. No. of Labourers / workman employed per day	Conservancy Cess charges to be recovered (per month)
1 to 5	₹159/-
6 to 10	₹312/-
11 to 25	₹ 785/-
26 to 50	₹ 1,143/-
51 to 100	₹ 1,534/-
101 to 200	₹1,926/-
201 to 300	₹ 2,318/-
301 to 750	₹ 2,676/-
751 to 1500	₹5,382/-
1501 to 3000	₹10,768/-
3000 & over	₹21,508/-

6. The contractor is liable to pay the taxes as stipulated in the GST Act and Rules and as per the clause No.6 & 37 of GCC April 2022. Also, the contractor should furnish the details of GST to be deducted from the contractor's bill.
7. The Contractor shall comply with the provision of the contract labour (Regulation and Abolition) Act, 1970 and the Contract labour (Regulation and Abolition) Central Rules 1971 as modified from time to time, wherever applicable and shall also indemnify the Railway from and against any claims under the aforesaid Act and the Rules as detailed in clause No. 55A of 'General Conditions of Contract – April 2022'
8. The contractor shall comply with the provisions of para 30 and 36-B of the Employees Provident Fund Scheme, 1952; Para 3 and 4 of Employees' Pension Scheme, 1995; and Para 7 and 8 of Employees Deposit linked Insurance scheme, 1976; as modified from time to time, through enactment of "Employees Provident Fund & Miscellaneous Provisions Act, 1952, wherever applicable and shall also indemnify the Railway from and against any claims under the aforesaid Act and the Rules" as per Clause No. 55B of 'General Conditions of Contract'
9. The Tenderer shall adhere payment of minimum wages act and all other labour legislations.
10. Updation of Labour data on Railway's Shramik Kalyan portal:
1. Contractor is to abide by the provisions of Payment of Wages Act & Minimum Wages Act in terms of clause 54 and 55 of Indian Railways General Conditions of Contract. In order to ensure the same, an application has been developed and hosted on website 'www.shramikkalyan.indianrailways.gov.in'. Contractor shall register his firm/company etc. and upload requisite details of labour and their payment in this portal. These details shall be available in Public domain. The Registration/updation of Portal shall be done as under:
 - a) Contractor shall apply for Onetime registration of his company/firm etc. in the Shramikkalyan portal with requisite details subsequent to issue of Letter of Acceptance. Engineer shall approve the contractor's registration on the portal within 7 days of receipt of such request.
 - b) Contractor once approved by any Engineer, can create password with Login ID (PAN No.) for subsequent use of portal for all LOAs issued in his favour.
 - c) The contractor once registered on the portal, shall provide details of his Letter of Acceptance (LOA)/Contract Agreements on shramikkalyan portal within 15 days of issue of LOA for approval of concerned Engineer. Engineer shall update (if required) and approve the details of LOA filled by contractor within 7 days of receipt of such request.
 - d) After approval of LOA by Engineer, contract shall fill the salient details of contract labours engaged in the contract and ensure uploading of each wage payment to them on shramikkalyan portal on monthly basis.
 - e) It shall be mandatory upon the contractor to ensure correct and prompt

uploading of all salient details of engaged contractual labour & payments made thereof after each wage period.

2. While processing of any 'On Account bill' of 'Final bill' or release of 'Advances' or 'Performance Guarantee/Security Deposit', contractor shall submit a certificate to the Engineer or Engineer's representatives that "I have uploaded the correct details of contract labours engaged in connection with this contract and payments made to them during the wage period in Railway's Shramikkalyan portal at www.shramikkalyan.indianrailways.gov.in till _____ Month, _____ Year"

11. **Vitiation Clause:** During the course of execution of the work, if there is any variation in the executed quantities over the quantities as per the Agreement, the inter se position of the tenderers may get altered. Under such circumstances the successful bidder is bound to accept the lowest value to avoid vitiation of contract.

12. CONTRACTOR'S SUPPLY ITEMS:

- a) All the materials required for execution of this work except those specified in Annexure – I have to be arranged by contractor.
- b) The contractor has to make his own arrangements for transporting men & materials to the site of work
- c) The contractor has to make his own arrangements for storing the materials proposed to be utilized by him. No responsibility will be taken by the Railways for the loss of contractor's materials.
- d) The contractor should have the expertise and all kinds of special tools/ equipments for execution of the work as per the schedule. The contractor has to make available all the tools and plants required for executing this work.

13. FINAL ACCEPTANCE:

- a) The final acceptance of the entire equipment installed under this contract shall take effect from the date of expiry of the period of guarantee (Maintenance period), provided that the Contractor has complied fully with his obligations against the contract as per the terms & conditions of the agreement.
- b) If on the other hand, the Contractor has not so complied with his obligations against the contract as per the terms & conditions of the agreement, the Railway may either extend the period of guarantee until the necessary works are carried out by the contractor or carry out those works or have them carried out suo moto on behalf of the contractor at the contractor's expense. After expiry of the period of guarantee, a certificate of final acceptance shall be issued by the Railway.

14. QUALITY ASSURANCE OF MATERIALS:

- a) All the equipments, materials, fittings and components will be subject to quality control program of the manufacturer, being part of the quality assurance program of the contractor. The materials may also be inspected by the Senior Divisional Electrical Engineer /General, Southern Railway, Tiruchirappalli or his authorized representative at the manufacturers works or as desired by Senior Divisional Electrical Engineer /General, Southern Railway, Tiruchirappalli. Senior Divisional Electrical Engineer /General, Southern Railway, Tiruchirappalli or his authorized representative will have the right to be present during all the stages of manufacture and shall be accorded all reasonable facilities for inspection and testing as well as to examine the stage inspection report of the manufacturer in addition to the quality audit which the contractor may institute as a part of his program so as to satisfy himself that the materials are in accordance with specifications, approved drawings and designs and Railways prescribed quality assurance standards.

b) The following ledgers are to be maintained at site in connection with this Works Contract:

1. Site Order book - By Contractor
2. Hindrance Register - By Contractor
3. Material Transaction Register- Both by Railways and the Contractor
4. Daily Progress & Labour Register. - By Contractor.

These registers are to be maintained at site and should be produced during inspection by officials. The formats for maintaining the above-mentioned registers are furnished at **Annexure 2 to 5.**

15. SAFETY MEASURES:

- a) The work should be carried out in the presence and under the guidance of the authorized representative of the Senior Divisional Electrical Engineer /General, Southern Railway, Tiruchirappalli.
- b) The contractor shall take all precautionary measures in order to ensure the protection of his own personnel moving about or working on the Railway premises, but shall then conform to the rules and regulations of the Railway, if and when, in the course of the works there is likely to be any danger to persons in the employment of the contractor due to running traffic while working in the Railway siding and premises. The contractor shall apply, in writing, to the Railway to provide flagmen or lock-out men for protection of such persons. The Railway will, however, decide as to whether it is necessary to post such flagmen for various types of work and also the number of such men required to protect the gang or gangs of contractor's staff working at site. The Railway shall remain indemnified by the contractor in the event of any accident occurring in the normal course of work arising out of the failure of contractor or his men to exercise reasonable precaution at all places of work whether or not the Railway decides to post flagmen at any particular site of work. The flagmen will be appointed by the Railway and no expense on this account will be charged from the contractor.
- c) The contractor shall ensure the unauthorized, careless or inadvertent operation of switchgear, which may result in accident to staff and/or damage to equipment, does not occur.
- d) The work is to be executed without causing damage to the existing arrangements of OHE at site/other railway properties at site. Defect / damages caused, if any, due to contractor's work at site, it should be rectified at the cost of the contractor.
- e) The execution of the work should in no way impede normal running of train services or shunting operation.
- f) While undertaking digging work in the vicinity of underground Signalling, Electrical and Telecommunication cables, special care shall be taken by the Contractor to ensure that no damage to these cables are caused due to their work. In case of any cable damage, the cost of the loss (either direct or indirect) caused by the damage shall be borne by the Contractor. The direct loss includes the cost of the cable damaged including the cost of restoration and indirect loss may include the resultant loss caused due to the dislocation in traffic and the cost of the other equipments damaged which have direct connection with the damaged cable etc.
- g) The contractor shall not permit their staff to work on the posts carrying overhead conductors or any other current carrying parts unless he had received in writing the permit to work from the authorized Railway representatives. He shall have to ensure that the supply lines are dead and earthed before commencing the work on the overhead conductors or any other current carrying parts.
- h) The Tenderer/Contractor must ensure the safety of the labourers engaged by him while executing the work and the Railway will not be responsible for any injury sustained by the labourers due to any accident or any other fatalities.
- i) The contractor shall obtain special permit from the Railway to enable his workers to work at, to bring to or to take materials from work spot.
- j) The work should be carried out without any interference to the normal working of Railway

track & structure. The contractor shall be responsible for any loss to Railway and public property and if it occurs during the course of execution, then the Railway reserves the right to have the damages made good by the contractor.

- k) The contractor shall be responsible for the safe custody of all equipment till provisional acceptance. Should the situation warrant posting of armed guards for protection from thefts, the same will be provided by the Railway, at his own cost and at his discretion. The contractor shall apply to the Railway explaining the circumstances under which posting of armed guards is considered necessary by him. At the same time, the details of the requirement and the number of personnel of armed guards, where and when required, shall also be furnished.
- l) The contractor shall abide by all Railway regulations and Indian Electricity Rules, 1956 in force for the time being and ensure that the same are followed by his Representative, Agent or sub-Contractor or workmen.
16. **RELEASED MATERIALS:** All the Released/Retrieved materials if any, shall be handed over to Railway after stacking at a convenient place at the office of Senior Section Engineer /Electrical as directed by the Engineer in charge at free of cost. For every contract, a dumping spot should be identified as per the instruction of Senior Section Engineer /Electrical / and the debris should be dumped there only.
17. No free Electric power supply will be supplied by Railway. However, power supply if feasible will be extended by Railways on terms applicable to outsiders. For testing purpose only free power supply will be given.
18. **Performance Guarantee (PG):** The successful bidder shall have to submit 5% of total contract value as performance guarantee (PG) within 21 (Twenty one) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 21 (Twenty one) days and up to 60 days from the date of issue of LOA may be given by the authority who is competent to sign the contract agreement. However, a penal interest of 12% per annum shall be charged for the delay beyond 21 (Twenty one) days, i.e. from 22nd day after the date of issue of LOA. Further, if the 60th day happens to be a declared holiday in the concerned office of the Railway, submission of PG can be accepted on the next working day.

In all other cases, if the contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract is liable to be terminated. In case contract is terminated the bidder shall be banned from submission of bids in any works/ service tender issued by Indian Railways for a period of 12 months from the date of such banning done on e- platform IREPS.

The failed contractor shall be debarred from participating in re-tender for that work.
For more details about PG refer GCC April-2022

19. **Security Deposit:** The security deposit will be deducted as Clause 16(1) of GCC April- 2022.

20. Bid security

1. Submission of Bid security:

- a) The tenderer shall be required to submit the Bid Security with the tender for the due performance with the stipulation to keep the offer open till such date as specified in the tender, under the conditions of tender. The Bid Security shall be as under:

Value of the Work	Bid Security
For all works	2% of the estimated cost of the work

Note:

- (i) The Bid Security shall be rounded off to the nearest ₹100. This Bid Security shall be applicable for all modes of tendering.
- (ii) Any firm recognized by Department of Industrial Policy and Promotion (DIPP)

as 'Startups' shall be exempted from payment of Bid Security detailed above.

(iii) Labour Cooperative Societies shall submit only 50% of above Bid Security detailed above.

- b) It shall be understood that the tender documents have been issued to the tenderer and the tenderer is permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to the Engineer. Should the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the Railway.
 - c) If his tender is accepted, this Bid Security mentioned in sub para (a) above will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract. The Bid Security of other Tenderers shall, save as herein before provided, be returned to them, but the Railway shall not be responsible for any loss or depreciation that may happen thereto while in their possession, nor be liable to pay interest thereon.
2. The Bid Security shall be deposited either in cash through e-payment gateway or submitted as Bank Guarantee bond from a scheduled commercial bank of India or as mentioned in tender documents. The Bank Guarantee bond shall be as per **Annexure-VIA of GCC** and shall be valid for a period of 90days beyond the bid validity period.
3. **In case, submission of Bid Security in the form of Bank Guarantee, following shall be ensured:**
- (i) A scanned copy of the Bank Guarantee shall be uploaded on e-Procurement Portal (IREPS) while applying to the tender.
 - (ii) The original Bank Guarantee should be delivered in person to the official nominated as Indicated in the tender document before closing date for submission of bids (i.e excluding the last date of submission of bids)**
 - (iii) Non submission of scanned copy of Bank Guarantee with the bid on e-tendering portal (IREPS) and/or non submission of original Bank Guarantee within the specified period shall lead to summary rejection of bid.
 - (iv) The Tender Security shall remain valid for a period of 90 days beyond the validity period for the Tender.
 - (v) The details of the BG, physically submitted should match with the details available in the scanned copy and the data entered during bid submission time, failing which the bid will be rejected.
 - (vi) The Bank Guarantee shall be placed in an envelope, which shall be sealed. The envelope shall clearly bear the identification "**Bid for the ***** Project**" and shall clearly indicate the name and address of the Bidder. In addition, the Bid Due Date should be indicated on the right hand top corner of the envelope.
 - (vii) If the envelope is not sealed and marked as instructed above, the Authority assumes no responsibility for the misplacement or premature opening of the contents of the Bid submitted and consequent losses, if any, suffered by the Bidder.

3.0 SPECIAL CONDITIONS OF CONTRACT

1. Prior approval is required from Sr.DEE/G/TPJ for supply of supply items. Quantity mentioned in tender is provisional, it may increase or decrease based on site condition. Before supply of materials contractor and Railway supervisor jointly inspect the site and arrive actual required quantity of supply materials
2. The works shall only be executed based on approved **Drawing/Layout plan** issued by Railways. The contractor has to submit the proposed arrangements in the relevant Drawing/Layout/plan with Bill of materials (BOM) and shall get approval from Senior Divisional Electrical Engineer/General, Tiruchirappalli. In case of any deviation required during the execution of work in the approved drawing, the same shall also got to be approved.
3. **Materials:** All materials / fittings /appliances etc. used in electrical installations shall conform to BIS Specifications wherever applicable. In case of the materials for which BIS Specifications do not exist, prior approval shall be obtained from Senior Divisional Electrical Engineer /General, Southern Railway, Tiruchirappalli.
4. Railway supplied material if any, will be supplied at stores of Senior Section Engineer/Electrical. Contractor has to make own arrangements for transporting the Railway supplied materials from stores of Senior Section Engineer/Electrical to work site.
5. All sample materials including switchgears shall get prior approval before using. Only reputed make of materials should be used.
6. **RAILWAY SUPPLY ITEMS:**
 - a. The list of Railway supply materials are furnished in **Annexure-1**. All other materials required for the successful completion of the work shall be arranged by the Contractor.
 - b. All Railway materials to be issued by Railways will be issued to the contractor as per relevant clauses of this Contract. The contractor shall make necessary arrangements so as to protect the Railway materials from pilferage/theft/loss and maintain them in good condition in such a way that while in storage they do not suffer any deterioration in quality in any manner whatsoever and shall have to compensate the Railways, in case the materials are considered to have been damaged, deteriorated, or have come to such a state that the same cannot be allowed to be installed/used. Railway will not be responsible for any damage/loss/deficiency/deterioration in quality suffered by the materials issued to them (Please refer other conditions of contract). The contractor shall maintain proper account for the materials issued to their workman for installation and the remaining quantity of the material. All Railway materials shall be exclusively used for installation/use for the purpose for which it is issued and the contractor shall not divert/remove the materials issued to Railways for any other work not connected with this tender enquiry.
 - c. Railway supplied materials will be supplied at the stores of concerned of Senior Section Engineer in-charge.
7. **INSPECTION:** All materials coming under the contractor's scope of supply shall be inspected by the consignee and a joint inspection note to be attached along with the sample. (Suppliers Invoice and Material inspection certificate must be enclosed for material acceptance).

8. COMPETENT SUPERVISORS

- a. The erection of all equipment according to the specification will be done by the contractor at his cost. For this purpose, the contractor shall employ competent representatives (**Minimum qualification of Diploma in Electrical and Electronics Engineering or ITI passed with Electrical B license issued by a Government Licensing Authority**) to supervise the erection of the equipment and the carrying out of the works at all stages. The said representatives shall be present at site during working hours and any written orders or instructions which the Railway's Engineers may give to the said representatives of the contractor shall be deemed to have been duly given or communicated to the contractor.
- b. The contractor or his representatives will accompany the Railway's Engineers on inspection or proceed to their offices whenever called upon to do so.
- c. The contractor's representatives shall give necessary direction to his workmen and ensure that they execute their work in sound and proper manner. He shall employ only such supervisors, workmen and laborers for the execution of any of the works as are careful and skilled in their respective trades and callings, If and whenever required by the Railway's the contractor shall submit a correct return showing the names of all personnel employed by him for the contract. In the event of the Railway's Engineer being of the opinion that the contractor is not employing a sufficient number of competent staff as is necessary for the proper execution of the works within the time prescribed the contractor shall forthwith on receiving intimation to this effect take on the additional number of staff as advised by the Railway's Engineer.

9. **PENALTY CLAUSE:** In the case of bursting of power block, shortfall in work & skipping of work, the Senior Divisional Electrical Engineer/General service/Tiruchirappalli's decision will be final and binding based on the Lump sum penalty on case to case basis with respect to the nature and offence and inconvenience caused to the Railway reported by the concerned filed supervisor.

10. **PAYMENT CLAUSE:** No advance payment shall be made to the contractor. Payments will be made for the awarded work order wise after completion of work. Payment will be arranged for the quantities executed based on the measurement recorded by the Senior Section Engineer in-charge time to time only through Electronic Fund Transfer System.

11. GUARANTEE/WARRANTY:

- a. The Contractor shall guarantee satisfactory working of the installation erected by him for a **period of 12 months** from the date of commissioning. The guarantee for spares should be coincident with the guarantee for erected equipment.
- b. For the period of guarantee the contractor have an experienced Engineer and necessary equipment to attend to any defective installation resulting from defective erection and/or defects in the equipment supplied by the contractor. This engineer shall not attend to rectification of defects which arise out of normal wear and tear and come within the purview of routine maintenance work. The Contractor shall bear the cost of modifications, additions or substitution that may be considered necessary due to faulty material, design or workmanship for the satisfactory working of the equipment. The final decision shall rest with the Senior Divisional Electrical Engineer, Southern Railway, Tiruchirappalli or his representative.
- c. During the period of Guarantee/Warranty the contractor shall be liable for the replacement at site of any parts which may be found defective in the fittings & Components, arising from faulty design, materials, workmanship or negligence in any manner in the part of the contractor provided always that such replaced items are promptly returned to the contractor if so required by him at his (contractor's) own expenses. In case of type defects in contractor's equipment and components

detected during guarantee period, contractor shall replace all such items irrespective of the fact whether all such cost of repairs carried out on his behalf by the purchaser at site. In such a case, the contractor shall be informed in advance of the works proposed to be carried out by the purchaser.

- d. If it becomes necessary for the contractor to replace or renew any defective portion of the fittings or components under the para aforesaid then the provision of the said para shall also apply to the portions of the fittings & components so replaced and renewed until the expiry of six months from the date of such replacement or of renewal or until the end of the above mentioned period, whichever is later. Such extension shall not apply in case of defects of a minor nature the decision of the Senior Divisional Electrical Engineer /General, Southern Railway, Tiruchirappalli or his successor/nominee being final in the matter. If any defect be not remedied within a reasonable time during aforesaid period the purchaser may proceed to do the work at the contractor's risk, and expense, but without prejudice to any other rights and remedies which the purchaser may have against the contractor in respect of such defects or faults.
 - e. Any materials, fitting or components supplied shall also be covered by the provisions of this paragraph. The liability of the contractor under the guarantee/warranty will be limited to re-supply of equipments, components and fittings.
 - f. Such re-supply shall be effected at the contractor's depot or in the event of closure of the depot at the stores depot of the Engineer-in-charge of maintenance of overhead equipment of the section covered by the contract.
 - g. In the case of materials, components, fittings and equipments supplied by the purchaser, no liability will rest on the contractor for failures on account of defective materials or workmanship and for any consequential damages. Such defective materials if not yet erected on line will be returned by the contractor to the purchaser and quantities will be considered for the purpose of final reconciliation over and above allowance.
12. For supply items under under DSR E&M 2025 chapter 8 and for DSR E&M 2025 item no 9.1,9.2,19.1,19.2,19.3,19.4 which includes supply of BLDC fan/LED light fittings, 25% of the accepted value shall be submitted as bank guarantee and shall be remitted after the period of warranty (5 years). **Note: This clause is applicable only if these materials are supplied by the contractor.**
13. For returning of Security Deposit of this contract, warranty period of 12 Months shall be considered.
14. Before commissioning of the installation, the following tests shall be conducted and the results should be as per standards.
- i. Insulation test.
 - ii. Earth continuity test path.
 - iii. Earth resistance value etc.

4.0 SCHEDULE OF WORK

Name of the work: Tiruchirappalli Division : Zonal work contract for electrical works for a period of one year (2026-27)					
S.No	Description	Unit	Qty	Rate	Total
1	Any Works, detailed in Central Public Works Department, Delhi Schedule of Rates (E&M)-2025 for execution at Senior Section Engineer / Electrical /Tiruchirappalli,Ponmalai, Villupuram, Vridhachalam, Thanjavur,Mayiladudurai,Tiruvarur, Tiruturaipundi Jurisdiction.	Lump Sum			71,25,089
	Total				71,25,089

S.No	Description	Unit	Qty	Rate	Total
NS Items					
1	Excavation of cable / pipe trench and pits of required width, length and depth etc in mixed soils conditions, removing obstruction if any including tools & plants, labour etc., and as per instruction of site Engineer in charge and as per drawing No: DRM/EL/TPJ/40-2016. This item to be used for track crossing	cum	300	847.67	254300.00
2	Dismantling of tar road portion including necessary tools & plant labour etc., and as per instruction of site Engineer in charge	sqm	40	207.17	8287.00
3	Demolishing plain cement concrete including disposal of material within 50m lead of mix leaner than 1:2:4 with coarse aggregate and tools & plant labour etc., and as per instruction of site Engineer in charge.	cum	20	570.38	11408.00
4	Demolishing plain cement concrete including disposal of material within 50m lead of mix leaner than 1:2:4 with coarse aggregate and tools & plant labour etc., and as per instruction of site Engineer in charge with the utilization of pavement breaker	cum	20	1899.00	37980.00
5	Providing and laying of Plain Cement Concrete by mixing of 1:3:6 including supply of cement, sand and coarse aggregate etc and tools & plant labour etc. and as per the instruction of site Engineer in charge for plinth and as required at site.	cum	10	4327.14	43271.00
6	Supply and Laying of one layer of country bricks in trench or pits as required at site (breadth wise) closely.	each	1000	9.83	9833.00
7	Laying and testing of LTUG power cable of up to and including 50 sqmm size complete with required tools & accessories. nb: LTUG power cable of required size will be supplied by Railway.	m	4000	24.00	96000.00
8	Laying and testing of LTUG power cable of above 50 sqmm but up to and including 185 sqmm size complete with required tools & accessories. nb: LTUG power cable of required size will be supplied by Railway.	m	4000	41.83	167333.00
9	Laying of HDPE pipe of up to and including 63mm dia including supplying and fixing of necessary accessories such as straight through coupler etc. nb: HDPE pipe of suitable size only will be supplied by Railway.	m	4000	37.60	150400.00
				C/O	778812.00

S.No	Description	Unit	Qty	Rate	Total
				B/F	778812.00
10	Laying of HDPE pipe of 75 mm dia including supplying and fixing of necessary accessories such as straight through coupler etc. nb: HDPE pipe of suitable size only will be supplied by Railway.	m	4000	40.00	160000.00
11	Refilling of cable trench and pit with excavated soil.	cum	300	52.00	15600.00
12	Fabrication, supply and fixing of clamps made out MS flats of different sizes for fabrication of clamps for various requirements. This shall be made use for fixing of items indicated in the note below. The clamp shall be made out of MS flat of suitable size, painted with two coats in each of zinc chromate and grey enamel paint or suitable colour as instructed by the Engineer in charge and using GI bolts with nuts of suitable size for fixing. Note: This shall be made use for fixing of items such as UG cables, cable leading pipe, 'U' brackets for shelter mains, enclosures made out of 16 SWG sheet steel contemplated elsewhere and cable tray etc.	kg	200	133.60	26720.00
13	Fabrication, supply and fixing of covers for for various requirements made out of MS sheet steel of 16 SWG thick, powder coated of suitable colour as instructed by the Engineer in charge. This also includes supply and fixing of all required accessories required for the purpose for which the enclosure is proposed to be used. When used for making of enclosures, all accessories including rubber gaskets, hinges, handles locking arrangements shall also be supplied. Note: This is to be made use for fabrication of metering bunks, enclosures for various uses including cover for termination in MCB type distribution boards and switch etc and cable tray etc , which are not covered specifically in this work.	sqm	40	3061.90	122476.00
14	Supply and termination and connection of LTUG cable of sizes of up to and including 50 sqmm size with single compression type brass cable gland aluminium tube terminal type crimping sockets. Note: One termination comprises of one number of single flange type brass cable gland and with four numbers of aluminium crimping sockets for all cores of the cable	set	100	405.71	40571.00
15	Supply and termination and connection of LTUG cable of sizes above 50 sqmm but up to and including 185 sqmm with aluminium crimping sockets and single compression type cable gland.Note: One termination comprises of one number of single flange type brass cable gland and with four numbers of aluminium crimping sockets for all cores of the cable.	set	80	861.13	68890.00
				C/O	1213069.00

S.No	Description	Unit		Rate	Total
				B/F	1213069.00
16	Supply, placing of cast iron cable route indicators, cast iron plate type including MS flat size 40mm x6mm x 350mm length concreting and coping, painting etc complete with all other accessories as per drawing No: CEE/CN/MS/11-2004.	set	60	549.57	32974.00
17	Fabrication, supply and fixing of cable looping box with aluminium bus bars as per drawing No: DRM/EL/TPJ-10-2015.	set	50	7796.00	389800.00
18	Erection of cut rail post up to and including 5.5 feet height with foundation and accessories like base plate, including supply of two coats of each Zinc chromate primer, aluminium paint as per drawing no CEE/CN/MS/20-2004.	set	50	2111.20	105560.00
19	Excavation, construction of earth pit, and provision of earth pipe complete with heavy duty GI pipe 50 mm dia with ISI mark complete with all other accessories as per Drawing. No EL / P / Type 1022.	set	60	4858.57	291514.00
20	Chipping and opening of brick wall and closing of opened wall after provision of one metre PVC pipe and covered with plastering in C.M 1:6 mix, 12 mm thick.	m	1500	38.00	57000.00
				C/O	2089917.00

S.no	Description	Unit		Rate	Total
				B/F	2089917.00
21	Supply and wiring to luminaires with 3 Core 0.75 sqmm, PVC insulated and sheathed flexible copper cable, 1100 V grade, conforming to IS.694 2010.	m	600	57.86	34714.00
22	Supply and fixing of SMC box of 170 mm X 170 mm X 105 mm outer dimensions size with one number of 16 A, 240 V rewirable fuse unit, 3 plate 6 A ceiling rose and one number of 16 A PVC strip connector including fixing with required accessories.	each	100	843.00	84300.00
23	Supply and fixing of MS bracket made up of 40mm X 12mm MS flat, including fasteners for 4 cables, one earth wire and painting complete with two coats in each of primer zinc chromate and aluminium paints and all other required accessories.	each	20	696.00	13920.00
24	supply and fixing of LT shackle insulator conforming to IS 1445 : 1977 and complete with all the other accessories .note:This includes supply and fixing of GI bolts of 10mm dia with nuts and washers.	each	80	168.00	13440.00
25	Supply and stringing of overhead service mains with PVC insulated fire retardant, single core, multistranded, copper cable of 6.00 sqmm (7/0.041" or 7/1.04 mm) size, conforming to IS.694, 1100 V grade on the already fixed shackle insulators including binding, single run. This shall be run in five wire combination for feeding power supply to lighting and fan arrangements. This shall also be used for running of earth wire for both fan & light circuits and 24 hours supply. Note : 5 runs of 6.0sqmm copper cable added together shall be taken as 1m for measurement purpose.	m	160	547.00	87520.00
				C/O	2323811.00

S.no	Description	Unit		Rate	Total
				B/F	2323811.00
26	Fixing of LED flood light fitting/street light fitting with all accessories.	each	200	196.25	39250.00
27	Supply and provision of protection/fencing arrangement for High Mast by cut rails and M.S Flat of size 40mm x 12mm for One meter height (from ground level) around 1.5 m dia.	each	10	18979.50	189795.00
28	Supply and provision of suitable foundation for the octagonal pole including excavation of pit, shuttering and erection of octagonal pole as per drawing No: DRM/EL/TPJ/37-2018	each	50	3668.00	183400.00
29	Wiring of light points through octagonal pole with 3 core 1.5 sq.mm wire	each	50	958.00	47900.00
30	Supply and fixing of 16 amps Bakelite fuse unit, 20 amps SMC connector on 5mm thick SMC sheet inside the Octagonal Poles	each	50	880.00	44000.00
31	Erection, testing and commissioning of bore well submersible pumpset including control panel complete with required accessories as per standard. nb: Borewell submersible pump set and control panel only will be supplied by Railway.	each	20	2730.00	54600.00
32	Fixing and testing of uPVC pipe as per standard including supply of all required accessories, straight through couplers etc including required fabrication works.	m	500	19.50	9750.00
33	Supply and laying of three core submersible flat cable 2.5sqmm, conforming to IS694.	m	500	139.67	69833.00
34	Supply and fixing of SMC junction box of size having inner dimension of 270mm x 225mm x 135mm with suitable connectors and accessories. This shall be equivalent to SINTEX make model no : GSJB - 3126.	m	40	1250.00	50000.00
35	Supply and provision of 19/20 mm dia M.S. conduit pipe to the required length including necessary threading.	m	238	173.20	41222.00
	Total				3053561.00

5.0 SPECIFICATIONS FOR THE SCHEDULE OF WORK

1. Contractors are advised to carefully examine all items in detail under CPWD Delhi Schedule of Rates (E&M) 2025 and to go through CPWD General Specifications for Electrical Works Part-1 Internal 2023 with latest amendments regarding technical Specifications for the execution of these items.
2. Website link for CPWD Delhi Schedule of Rates (E&M) 2025 and specifications

https://cpwd.gov.in/Documents/cpwd_publication.aspx

3. Specification for NS-items:

1. Specification for excavation of cable trench and method of laying of UG cable.

1. Laying of LT Underground Cables: Excavation of cable trench in all kinds of soils and laying of power cables as per cable route plan, and termination of the cables on poles / MDB / building etc as required. Other specifications are:

2. The work shall be carried out according to the drawings approved by the Railways and the provision of IE Rules and IE Act. The contractor shall be solely responsible for the proper execution of the work as per specification. The cable laying work shall strictly conform to the provision of IS Specification No: 1255, 1983 the "Code of practice for installation and maintenance of power cables up to and including 33 kV".

3. Normally trenches shall be cut to a width of 300 mm and depth of 1000 mm from the ground level reckoned below the parent soil. Otherwise it should be approved by supervisor in charge of Railways according to site condition. General arrangements of cable trench is as detailed in the drawing number: DRM/EL/TPJ/40-2016. Depth of trenches should be as shown in the drawing in all locations and the same should not be changed due to condition of soil. If extreme difficulties are encountered due to prevailing site conditions, approval of the Engineer-in-Charge should be taken before any deviation is proposed.

4. The cables shall be laid at site generally following the cable layout plan. The route by which the cable trench is to be taken shall be surveyed in advance and may be got approved by the Engineer at site before commencement of the work. Any specific difficulties in following route indicated or obstructions met with shall be brought to the notice of the Engineer-in-Charge. The trenches should be excavated as far as practicable in a straight line.

5. Adequate care shall be taken while cutting the trenches in the platform area so that passengers may not fall inadvertently into the trenches dug, either during the day or night. Such portions of the trenches which may affect movement of travelling public / movement of trolleys etc. should be closed on the same day of cutting duly laying of cables / pipes as the case may be. Adequate care shall be taken to ensure that the Platform coping is not damaged due to the cutting of the trenches. It should also be ensured that paver blocks, concrete slabs etc removed for providing of trench should be refit including pointing immediately. Cable trench across tar road includes dismantling of tar road including bituminous top layer of road. When tar road is cut for provision of cable trench the same shall be covered with cement concrete of mix specified in the schedule and consolidated to form smooth surface as that of the existing tar road as per instruction of site Engineer in charge

6. The contractor has to take a "Works Permit" to work in the station area for the movement and working of men. The contractors shall take all precaution to ensure that the life and safety of the men working under them is taken care of. They are solely responsible for accidents if any occurs to the staff working under them. Railway will in no way stand responsible for such accidents.

7. No cable trench shall be cut within 2 metres from the centre line of any main line track. No cutting of trenches near the main line shall be carried out without the presence of the Railways representative. Where long lengths of trenches have to be cut parallel and close proximity to the track the laying of cables should be completed at one stretch at the quickest time possible to avoid any sinkage of track and consequent train accidents. No trenching work shall be carried out in the night hours (18.00 Hours to 6.00 Hrs.) The cut trenches will be inspected by a Railways representative after which only subsequently laying of pipes, laying of cables etc shall be commenced.

8. At intermediate or termination points, spare length of cables shall be coiled and buried in the soil sand cushion shall be laid over which the cables shall be laid and again covered with a sand cushion also at the specified depth. The location where such coils shall have to be laid will be indicated by the Railways representative. The sand cushion should be 150 mm on the bottom and top of the cable coil.

9. Cables and other materials which are proposed to be supplied by Railway will be supplied in the office of the Senior Section Engineer, Electrical, Works, Tiruchchirappalli. Tenderer / Contractor has to collect these materials and take to the site of work with their own transport. The contractor may make his own arrangements for proper storage of the Railway materials, safeguarding and subsequent transportation to site for laying / use etc. Care shall be taken to avoid damage to the Railway materials during transportation, spreading out and subsequent laying operations and fixing / erection. Adequate man power shall be employed by the contractor for this purpose. The UG cable is likely to be damaged due to rough handling, too sharp bending, hanging over pivots etc. The cable should not be allowed to be twisted while spreading and laying.

10. The cable should be inspected before and at the time of spreading out for the insulation strength and look for any mechanical injury to the insulation of the cable etc. so that appropriate caution can be taken before laying of the cable and closing of the trenches No cable which does not pass the acceptance levels of insulation strength shall be laid in the trench.

11. The contractor is solely responsible for damage if anything happens in the process of spreading out the cables and laying cables within the station area. Particular attention would be required in this respect in view of the continuous rail traffic that may take place in the close vicinity. The contractor has to take adequate precaution to ensure that the staff working near the running tracks are adequately warned for the approach of trains. They shall be removed from such areas well before the arrival of the train. They shall not cause any type of detention to the trains or in any way dislocate the train operation. No materials, tools, accessories, cables shall be left over in between, under or in the close vicinity of the track. No open fire or other inflammable materials shall be kept on the track or nearby.

12. If trenching operations are affected by rain, the trenches should not be left open to rain water which may prove to be hazardous for the train movement nearby. Such trenches if further work is likely to be delayed shall be closed. The back filling of the earth should be made fully packed and rammed well so that the filled soil is well consolidated. Cut soils should not be wasted away. They shall be used for back filling only.

13. In case the LTUG cables drawn through pipes, sand filling and bricks protections are not required. In such locations where pipes are used in trenches for laying of cables, adequate slope shall be maintained for quick draining of water.

14. The station yard, Platform area is likely to have signal and other power cables. Therefore, care shall be exercised to avoid damage to the cables already available below the ground level. Generally cables are laid 900 mm to 1000 mm below the ground level.

15. Where the cable raise above the ground to be fixed against a wall or rail post or other structures, the vertical portion of the cable shall be protected by means of GI pipe of appropriate dia meter. The length of GI pipe shall be such that it shall be 600 mm below the ground level and at least 2000 mm above the ground level. The approximate length of cable leading pipe for such purpose is 3000 mm. The portion of the GI pipe below the ground level shall be covered by a cement concrete of 1:3:6 ratio and finished in an approved manner and yet with provision to avoid stagnation of rain water inside the pipe. The GI pipe encasing the cables shall be secured by suitable clamps fixed at 1000 mm intervals and one at the top. The open end of the pipe shall be covered with bituminous cable compound to prevent entry of rain water.

16. Necessary clamps and cable leading pipes for cable laying etc are generally covered under separate schedule items. If not included in the schedule as separate items, supply and fixing of cable leading pipes are inclusive of clamps of specification mentioned.

17. The cables above 2000 mm from ground level can be taken in open state either over the building walls / trusses of roof columns etc. They shall be clamped at 1000 mm intervals and secured to the structures walls / posts etc. as the case may be by clamps made out of MS flats of sizes for securing the UG cables to avoid damage to the cables.

18. The cable leads brought out at the cable end boxes should be provided with aluminium lugs / sockets and brass cable glands adopting crimping methods and finished as suitable for termination on to the switches cut out etc. as the case may be.

19. The route of the trenches excavated will be taken as the linearly at the centre line of the trench. In the case of trenches excavated for the purpose of laying spare length of cables, the same method shall be adopted for the purpose of measurements.

20. Cable route indicators shall be embedded in the trench before refilling at intervals of 15 metres in straight run and at every turning and as per the instructions of the Engineer-in-Charge. The cable route indicator shall be as per drawing number CEE/CN/MS/11-2004.

2.0. Specification for PVC rigid wiring conduit pipe.

The PVC wiring conduit pipe shall be of rigid PVC pipe of outer diameter indicated in the schedule, heavy duty type suitable for electrical wiring purpose with plain ends and shall conform to IS: 9537 (part 3) 1983. Only ISI marked PVC pipes should be used. Standard lengths of pipe should be 3.00 m. Each standard length of pipe shall be marked with manufacturer's Name, Trade Name, Duty and ISI marking. PVC wiring conduit also include bends, elbows, tees, straight through couplers, junction boxes of suitable number of ways etc all made of PVC materials suitable for electrical wiring purpose and these shall be of rigid slip fit type, with their dimensions & thicknesses shall be suitable for PVC wiring conduits of size given in the schedule.

2.0.a. Accessories for PVC rigid wiring conduit pipes:

Accessories are inclusive of PVC bends, couplings, Tees or Junction boxes etc as per site requirement, of rigid slip fit type, suitable for electrical wiring purpose with dimensions and thicknesses suitable for PVC wiring conduit of size given in the schedule. When Junction boxes are used they shall be of standard dimensions and thicknesses. PVC Junction boxes shall be suitable for PVC wiring conduits of sizes indicated in the schedule. Junction boxes shall be of single way / two way / three way / four way types as per wiring requirement. Junction boxes shall be covered with PVC cover on the top fixed using GI screws. The depth of junction box shall be suitable for the type of wiring.

2.0.b. Method of laying of wiring conduit – by concealed wiring method.

The conduit shall be embedded in the groove already provided including supply and using of all accessories such as nails / screw etc, spaced not more than one m apart and as directed by the Engineer-in-Charge in such a way as to secure the wiring conduit in a rigid manner. This also includes supply and running one number of GI fish catch wire of 16 SWG size.

2.0.c. Specification for chipping, opening and plastering of wall for embedding of PVC wiring conduit in concealed wiring method.

This includes chipping and breaking open the wall of adequate depth and width required to embed one number of PVC wiring conduit of size indicated in the schedule. This also includes all required accessories for embedding of conduit in the groove cut for this purpose. When more than one number of PVC pipe are to be embedded, all such pipes shall be placed adjacent to each other with the wall opened to the total width required. In such cases the total measurement will be the length per pipe multiplied by number of pipes embedded. Closing of opened wall after PVC pipes are provided shall be with cement mortar of 1:6 mix. It shall be ensured that cement mortar cover over the PVC pipes embedded in the wall up to the surface of brick wall (excluding final plastering of wall) should be at least 20 mm thick.

3.0. Specification for wiring – General.

The following additional specifications are applicable for this contract. These are in the nature of additional requirements over and above the specifications for electric wiring.

a). Wiring shall be carried out with single core, PVC insulated copper conductor through PVC pipes already provided. The cables proposed to be used are of flexible type of appropriate voltage class and other specifications as indicated in the specifications. Approved makes of cables only should be used. Cables proposed to be used shall be tendered for inspection and only on acceptance the same may be used.

b). The attention of the tenderer is invited with regard to spurious makes of cables sold in the market. If at any time the cables used were found to be spurious the work has to be redone by the contractor at his own cost duly removing the wiring carried out with spurious materials.

c). All materials, fittings, appliances shall conform to relevant IS Specification wherever available. In case of materials for which no IS Specification exists the material shall be got approved by the Divisional Electrical Engineering / General / Tiruchchirappalli prior to their use.

d). SYSTEM OF WIRING

d.1 The system of wiring shall be that separate phase, neutral and earth wires shall be taken for each circuit from the main control board / distribution fuse board, similarly from the control board to each and every light point / fan point, separate phase, neutral and earth wires shall be taken.

d.2 Where more than one control board is to be connected in any one circuit the supply can be taken from one control board to the other by taking separate phase and neutral wires (one earth continuity connections if required) or from the main control board / distribution fuse board through separate phase and neutral wires for each control boards.

d.3 Suitable PVC connectors shall be used for such purpose in the main control boards for termination of phase and neutral wires controlling to light points / fan points and other control boards. No jointing or twisting of wires is permitted either inside the control boards or anywhere also outside.

d.4 The stipulation regarding the minimum size of wires, the number of point, total connected wattage on each circuit should be as per relevant code of practice.

d.5. LAYOUT OF WIRING: Power circuits if any shall be kept separate and distinct from the light and fan circuits. The wiring shall be done in such a way to facilitate easy inspection. The wiring shall be carried out in an approved manner satisfying the relevant IS specification, code of practice available and the additional specifications, applicable for conduit wiring system included.

d.6. No joints shall be permitted in the wiring. If any jointing of cables is found to have been carried out in the PVC pipe wiring subsequently a penalty of Rs.500/- per joint detected will be levied. In addition the contractor has to redo the portion of the wiring found to have been carried out with jointing at his own cost to an acceptable standard.

d.7. No power will be supplied by the Railway for the contractor to carry out his work. The contractor if he desires to have temporary supply for his works, he may apply for the same to the Divisional Electrical Engineer, Tiruchchirappalli. If feasible supply may be made available on terms applicable as for outsiders. The contractor has to bear all the costs.

d.8. Necessary earth continuity connections shall be provided keeping in mind the maintenance requirements, safety etc. In addition to the above earth connection, the contractor is required to have a separate earth pit and earth connection as detailed in the schedule of work.

d.9. On completion of the wiring work, necessary tests will be conducted to certify the correctness of the work carried out by the contractor which shall cover broadly the following:

- i) Insulation strength from conductor to earth.
- ii) Earth resistance of earth pits and effectiveness of the earthing provided.

d.10. The tenderer should furnish makes / manufacturer's names for materials proposed to be supplied by him and get the same approved by Engineer-in-Charge before the same are employed for the physical execution of work. All other materials for which no specific brands are available in the market and fabricated items should be got prior approval by the competent authority before execution.

SPEC/ELEC/TPJ - Specification for FR PVC wiring cables.

Description : Single core flexible FR PVC insulated, unsheathed multi stranded copper wiring cables for working voltage up to & including 1100V AC conforming to IS:694, 2010.

Conductor: Bright annealed bare electrolytic copper multi stranded
(not more than 0.30 mm dia) Conductor as per IS: 8130, 2003 / IEC 228.

Insulation : Dielectric grade PVC compound conforming to IS 5831, 1984 with additional fire retardant properties (FR) for working voltage up to 1100V with ISI mark.

4.0. Specification for earthing arrangement.

This includes excavation of earth pit of 0.40 m X 0.40 m size and of 3.0 m depth including supply and erection of 'C' class GI pipe of 50 mm nominal bore dia. of 3.0 m long, provided with one number of MS flat of 50 mm wide and 10 mm thick and 60 mm long, welded to the earth pipe for earth connection. This includes necessary fabrication including drilling of holes of sizes on the earth pipe. Use 10 kgs of salt and 20 kgs of charcoal for every earthing arrangement. On the top of the earth pit shall be provided with RCC earth box with RCC top cover of sizes shown in the drawing. Use MS rods of 6 mm dia, both longitudinally & laterally, interspaced not more than 100 mm apart for earth box and top cover. The top cover shall also be provided with one lifting hook made out of MS rod of 6 mm dia. for inspection purpose. The earth pot shall be painted with two coats of black anti corrosive paints and details of earth values, both individual & combined, including date of measurement should be written on the earth top cover of earth box. The earthing arrangement shall conform to IS. 3043, 2018. Refer drawing No: EL/P/Type/1022 for further details.

SPECIFICATION – General:

NOTE-1. Test & Guarantee Certificates:Tenderer / contractor shall submit Manufacturer's Test and Guarantee Certificates along with materials asked for by the Engineer-in-Charge.

NOTE:-2. All switches should conform to AC 23A duty cycle, unless stated otherwise, and conform to ISS. No: 13947, 2004 and the breaking capacity of HRC fuse links should be 80 kA. All MCBs should be of 10 kA short circuit breaking capacity type and of “C” series, unless stated otherwise, conforming to IS / IEC. 60898-1 2015.

NOTE:-3. All switches / control boxes shall be fixed by concealed / open wiring method to suit the site requirement with required accessories including plastering etc as detailed in the schedule description. For mounting by open method, an angle iron frame work made out of MS angle of suitable size made out of 25mmX25mmX3mm size shall be used, if not specifically mentioned in the specification, painted with two coats in each of primer zinc chromate and aluminium or grey enamel paints shall be used. Use only GI bolts and nuts for fixing, even if not mentioned in the schedule.

NOTE:-4. GI and MS pipes shall conform to IS.1239:part 1(2004) and shall be either one of HFW or ERW or HFIW types.

NOTE:-5:Any removal / dismantlement of existing installation should be done with the consent of the Engineer-in-Charge. All such released materials should be immediately handed to the stores depot of the Engineer-in-Charge or as instructed by him.

NOTE:-6: “Danger – 440 V” or “Danger – 230V” stickers shall be affixed on Panel boards, MCB type SDBs, switches, looping boxes, metering bunks and in all important locations as instructed by the Engineer-in-Charge.

NOTE:-7. All materials to be used for the work should conform to relevant IS specification.

NOTE:-8. The work should be carried out only by a tenderer/contractor holding a valid license issued by the State Government for carrying out installation work of the voltage classes involved under direct supervision of the persons holding valid certificates of competency for same voltage classes issued or recognized by the State Government. The tenderer should furnish with his tender the particulars of the license held by him. The successful tenderer shall furnish the names and particulars of certificates of competency of the supervisors and workmen to be engaged for carrying out this work. In case of LT works if the firm does not have a license in its name, it shall be ensured that the work is carried out only by a person who is a holder of such license.

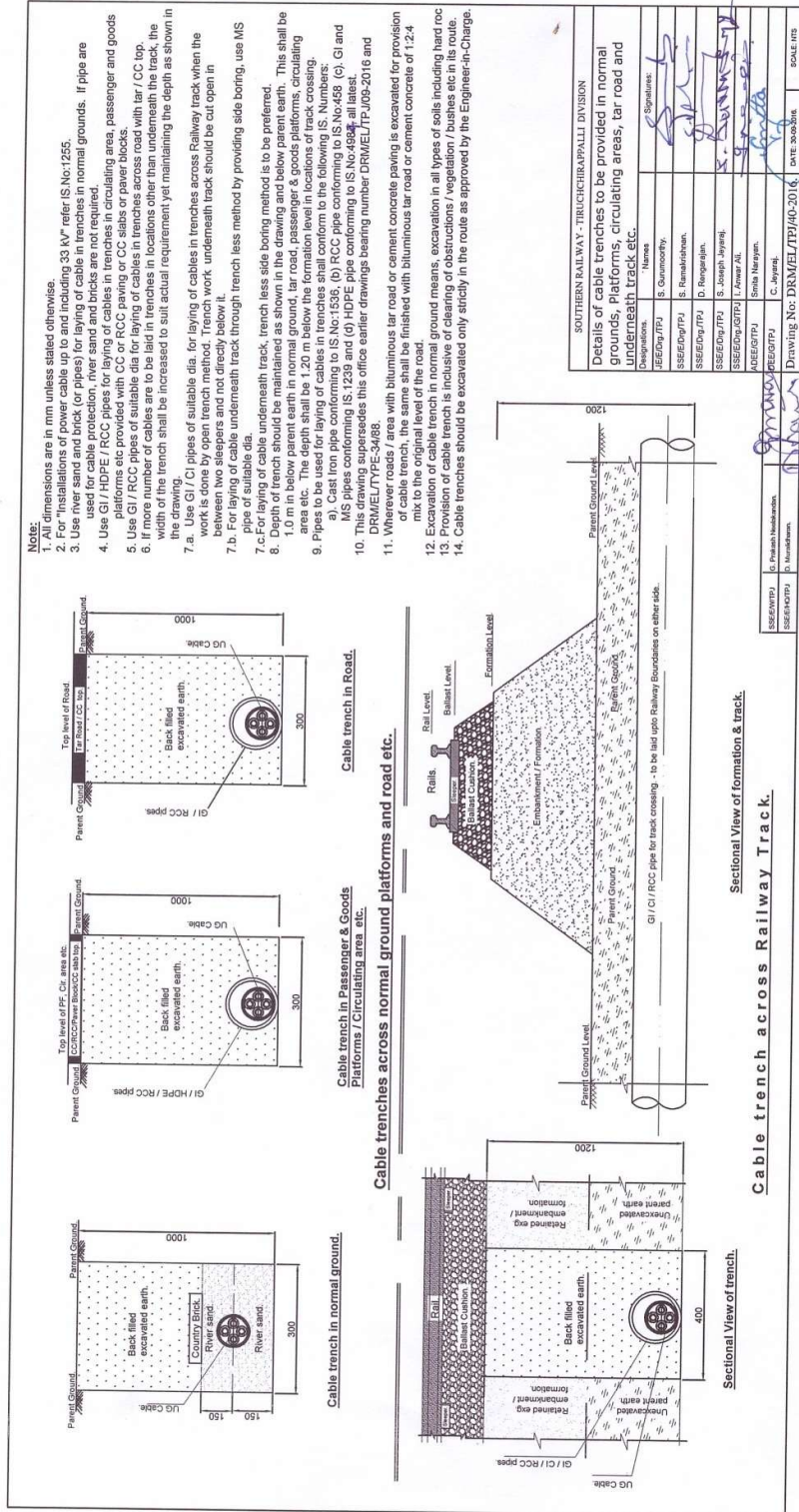
6.0 DRAWINGS:

List of Drawings.

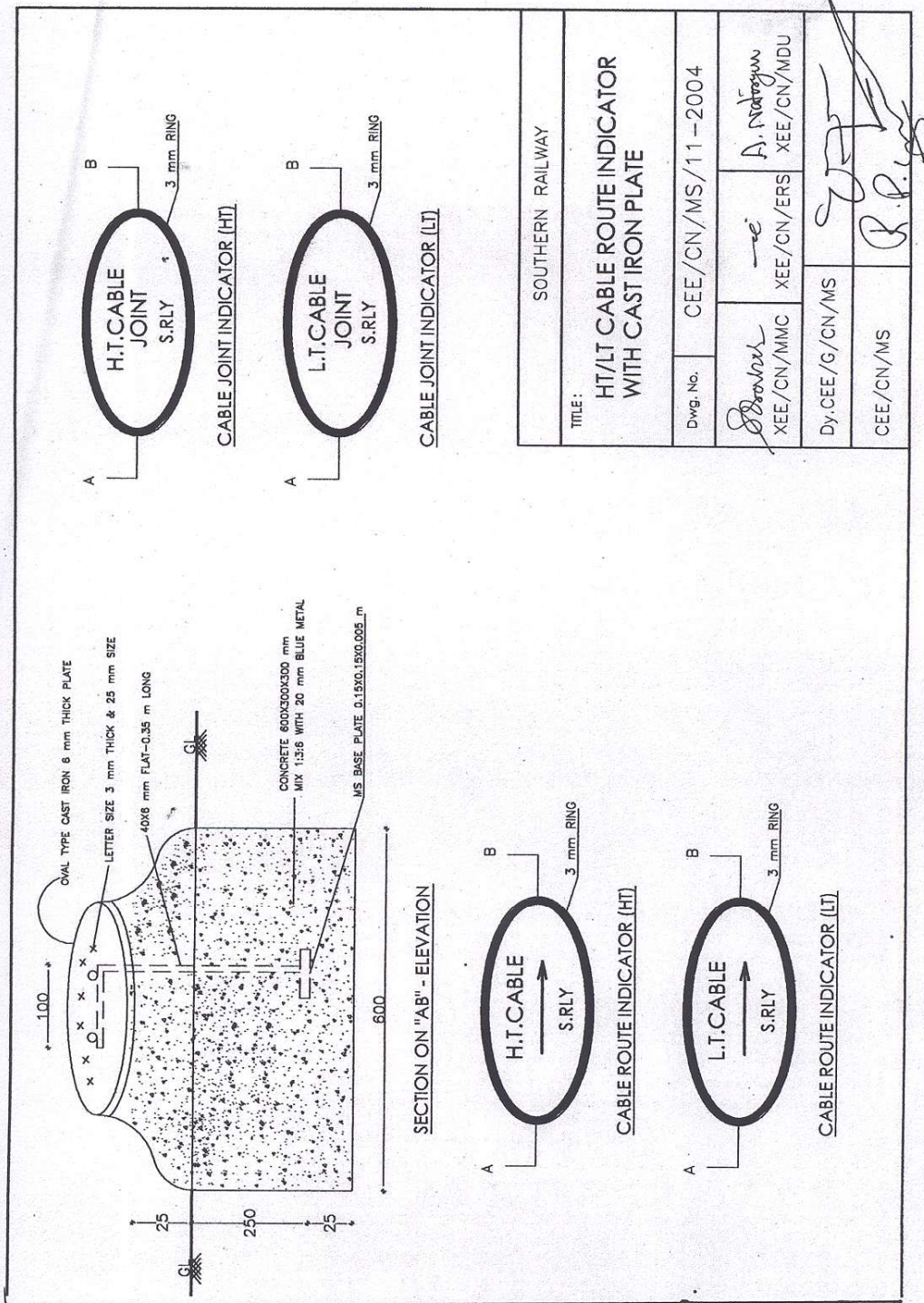
S.No	Description of drawing	Drawing Number
1	Cable trench work	DRM/EL/TPJ/40-2016.
2	Cast Iron type cable route indicator	CEE/CN/MS/11-2004
3	Cable looping box with aluminium bus bars	DRM/EL/TPJ/10-2015
4	Cut Rail post of 5.5' height	CEE/CN/MS/20-2004
5	Earthing Arrangement.	EL/P/TYPE/1022.
6	Foundation for octagonal pole	DRM/EL/TPJ/37-2018

Note: All the above drawings are included in the tender document.

1.0. Cable trench work



2.0.Cable route indicator.

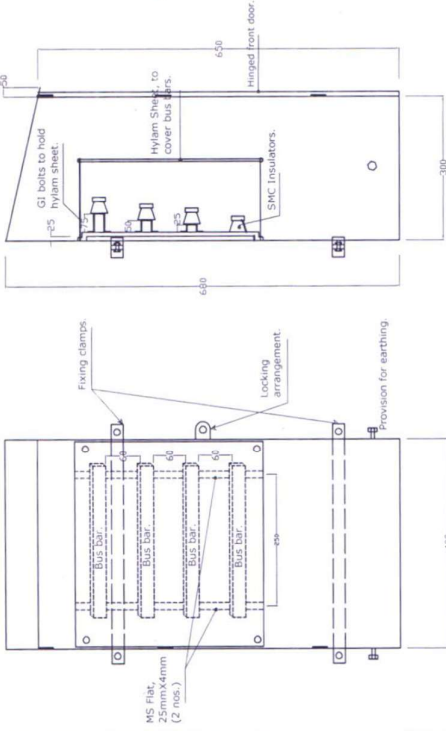


3.0. Cable looping box with aluminium bus bars.

CABLE LOOPING BOX WITH ALUMINIUM BUS BARS.

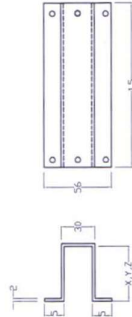
Notes:

- 1. All dimensions are in mm unless stated otherwise.
- 2. Sheet metal for fabrication of the looping box shall be 16 SWG.
- 3. The enclosure shall be weather and vermin proof, provided with neoprene rubber gasket all round, hinged front door and provided with locking arrangement. There should be a minimum of three numbers of hinges for fixing of front door.
- 4. All the four aluminium bus bars shall be of 40 mm X 6 mm size and 320 mm long and each supported with SMC insulators, at two numbers per bus bar with brass bolts and nuts of suitable size, which in turn are mounted on MS flats of 25mmX4mm size, two numbers, one on either side bent to 'U' shape. For fixing of SMC insulators on MS flat sliding holes shall be provided to position bus bars suitably and with adequate clearances. All bus bars should be covered with a hylam sheet of 350mm width, 400 mm height and 3 mm thick as indicated in the drawing fixed, using four numbers of GI bolts of 6 mm dia and of suitable length.
- 5. Use three numbers of channels made out of 2 mm thick (14 SWG) sheet steel of inner depth of X, Y, & Z, which are 25mm, 50mm and 75 mm for fixing of insulators for 2nd, 3rd and 4th bus bars respectively from bottom fixed using GI bolts of 6 mm dia and of adequate length on the main flat..
- 6. Necessary holes shall be drilled in the bus bars to suit connection of one number of incoming cable of up to and including 240 sqmm and two numbers of outgoing cables of upto and including 120 sqmm size, all LTUG, armoured and sheathed aluminium cables.
- 7. Suitable punched provisions shall be provided in the bottom of the enclosure for one number of incoming cable of up to and including 240 sqmm size and two numbers of outgoing cables of up to and including 120 sqmm size, all LTUG, armoured and sheathed aluminium cables.
- 8. Heat shrinkable sleeves of Red, Yellow, Blue and Black colours shall be provided on all bus bars of R, Y & B phases and Neutral respectively.
- 9. The looping box shall be provided with two numbers of clamps made out of MS flat of 50mmX6mm size suitable for fixing on rail posts / stanchions of shelters on Railway platforms. Each clamp shall have two MS flats, one fixed on the enclosure run through out breadth of the enclosure and the other bent to be fixed on rails / stanchions.
- 10. The looping box & all steel items including clamp shall be powder coated in grey shade.
- 11. Use four numbers of GI bolts of 10 mm dia of suitable length with nuts and spring washers for fixing of the looping box.
- 12. Sample shall be got approved by the Engineer-in-Charge before bulk supply is made.
- 13. Two earthing provisions shall be made for earthing of the enclosure using 6 mm dia GI bolts with nuts and spring washers.



Front view with door removed.

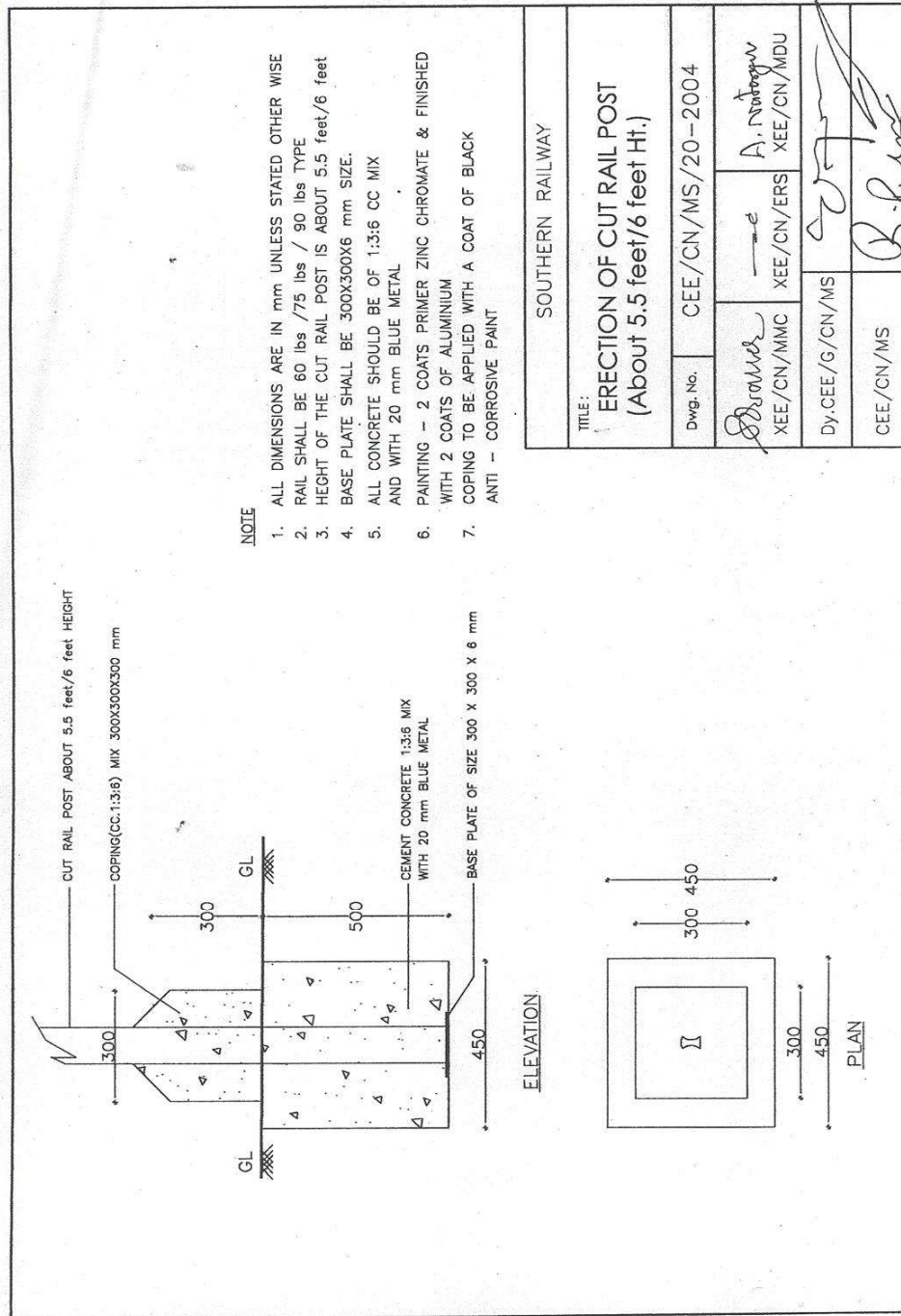
Side View.



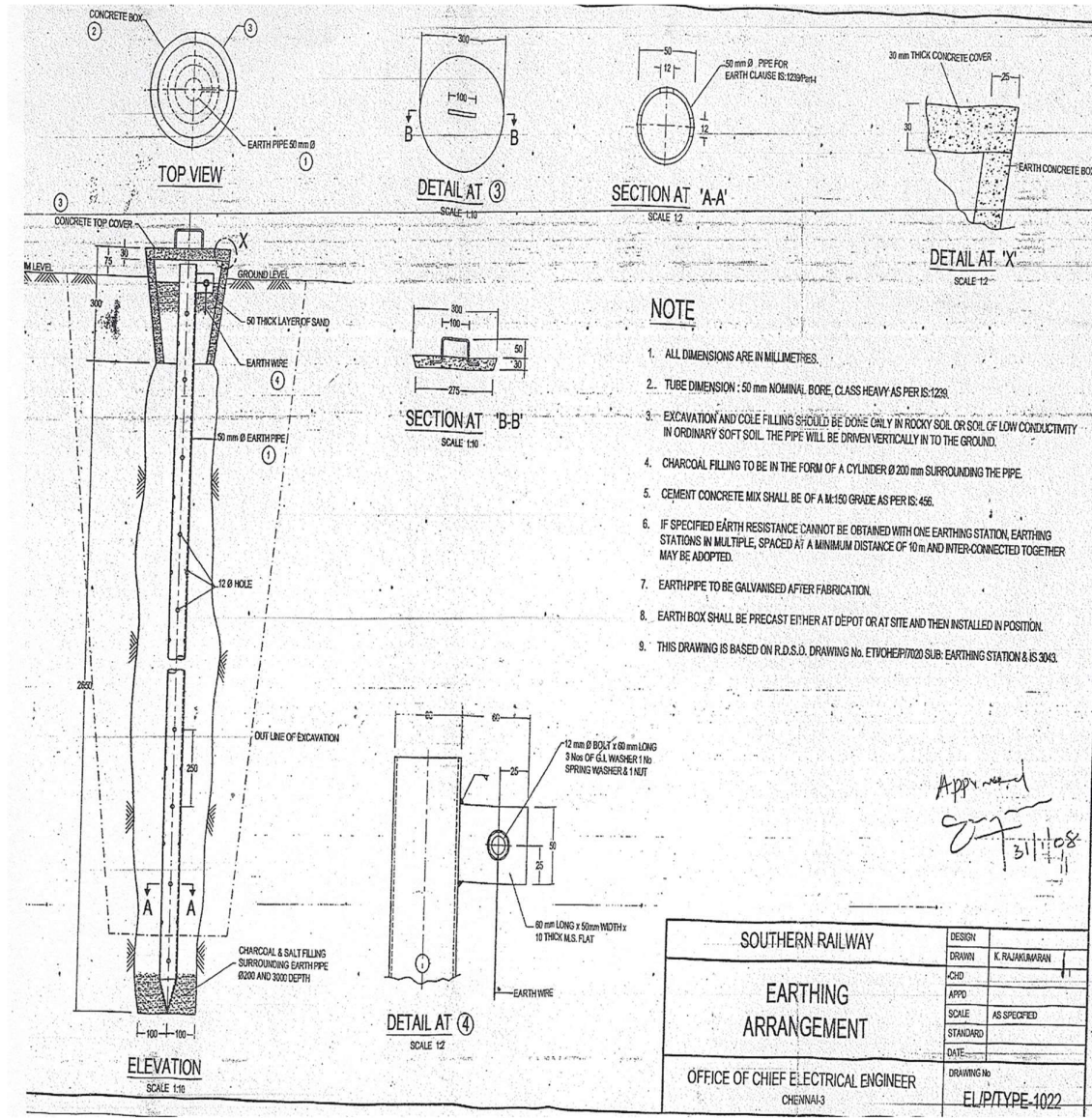
SOUTHERN RAILWAY - TIRUCHIRAPPALLI DIVISION			
Cable looping box with aluminium bus bars.			
Designation	None	Signature	
SSE/Dr/g	S. JOSEPH JAYARAJ		
SSE/Dr/g/G	I. ANVAR ALI		
ADEE/G/TPJ	C.S.SASTI KUMAR		
DEE/G/TPJ	C. JAYARAJ		

SSE/E/W/TPJ G. PRAKASH NEELAKANDAN Drawing No: DRM/EL/TPJ/10-2015. DATE: 04-11-2015. SCALE: NTS

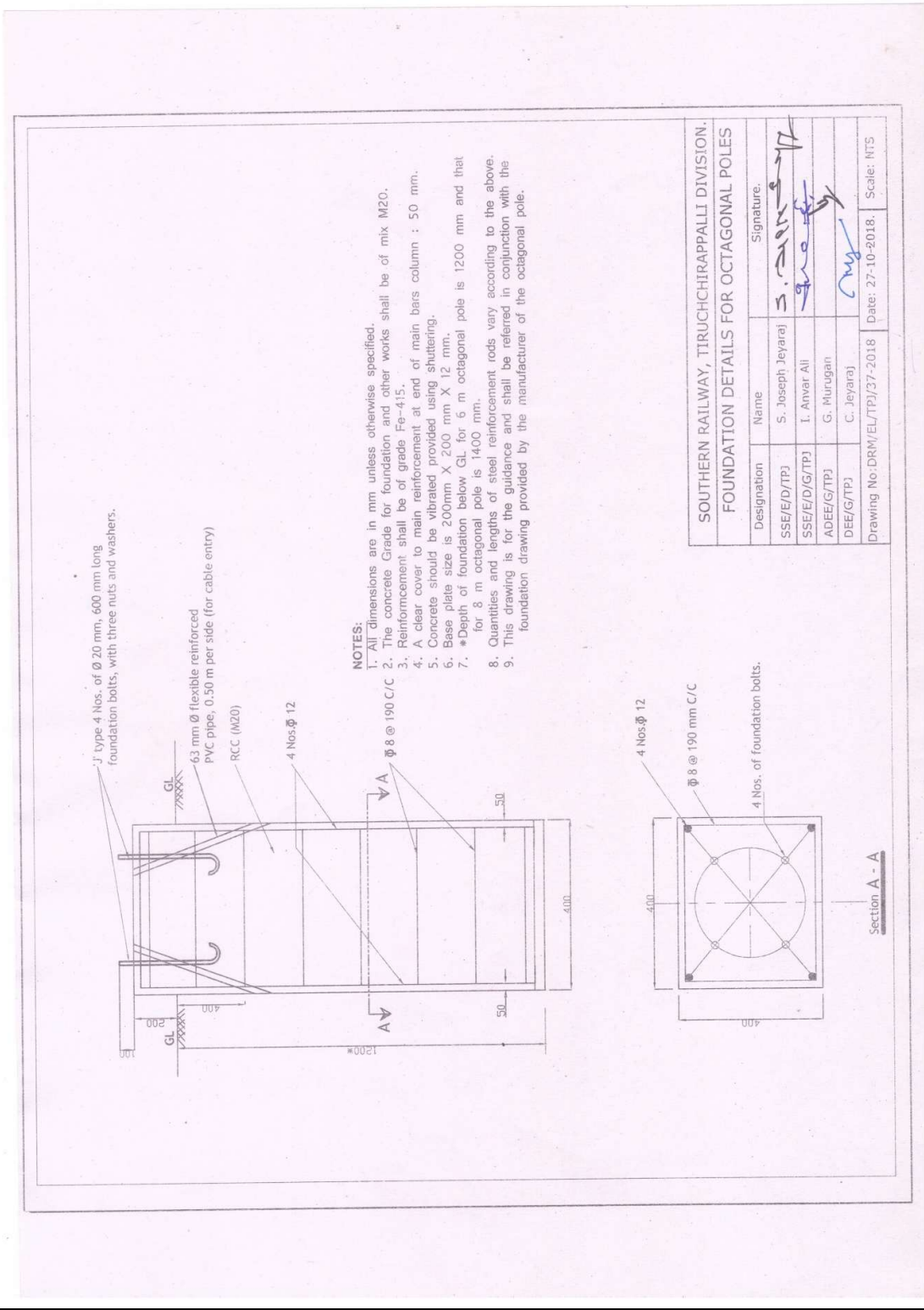
4.0. Cut Rail post of 5.5' height



5.0.Earthing Arrangement.



6.0. Foundation for octagonal pole of 6.0 m and 8.0. m heights



LIST OF RAILWAY SUPPLIED MATERIAL

S.No	Description	Size/Dimension/wattage
1	4core LTUG XLPE cable	16,25,50,70 and upto 95 Sqmm
2	HDPE pipe	63mm,75mm and upto 110mm Dia
3	Octagonal pole	4m,5m and upto 6m height
4	Submersible Pumps-borewell & GLR	Upto 10HP
5	uPVC pipe	50mm & 65mm
6	Flood lights IP66	100W &200W
7	Street Lights IP66	45W
8	Recess Lights	12W,18W,36W and 40W
9	BLDC fan	sweep 1200mm & 1400mm
10	Led Tube/batten Lights	20W,36W

SOUTHERN RAILWAY**SITE ORDER BOOK**

Name of Work:

AGT. No. / Date:

Name of the contractor:

Starting date of construction:

Sl. No.	Site Order by Inspecting officials	Signature of the official	Noting Signature		Compliance details	Remarks	Compliance Signature	
			Contractor	SSE			Contractor	SSE

Notes:

1. For every work, separate site order book should be maintained.
2. Site order should be recorded specifically and chronologically.
3. Wherever required site orders may be supported by sketches.

Special Note: Any objection of the contractor to the site order should be brought to the notice to the senior section Engineer / Electrical / works / Tiruchirappalli or his higher officials immediately by the contractor separately

SOUTHERN RAILWAY**HINDRANCE REGISTER**

Name of Work:

AGT. No. / Date:

Name of the contractor:

Starting date of construction:

Sl. No.	Nature of hindrance	Date of Occurrence	Date of removal	Period of hindrance	Over lapping period	Total period of hindrance	Extension recommended	Extension approved	Clause under GCC	Signature	
										Contractor	SSE

Notes: Separate register to be maintained for each work.

SOUTHERN RAILWAY

MATERIAL TRANSACTION REGISTER

Name of Work:

AGT. No. / Date:

Name of the contractor:

Starting date of construction :

Location of Stores :

Date of Receipt	Name /Nature of work	Opening Balance	Item Description	Details of Receipt				Total received (with unit)	Total certificate	Signature		Details of issues			Closing Balance	Remarks reg. performance	Signature	
				Voucher No.	Brand	Quantity	Expiry date			Contract or	SSE	Date	Quantity	Total issued			Contract or	SSE

Notes: Separate register to be maintained for each work

SOUTHERN RAILWAY**DAILY PROGRESS & LABOUR REGISTER**

Name of Work:

AGT. No. / Date:

Starting date of construction :

Name of the contractor:

Date	Status of work (in the beginning)	Progress (on date)	Contractor labour (available at site)	Remarks	Signature	
					Contractor	Rly Representative

Note: Separate register to be maintained for each work

**MANDATE TO BE SUBMITTED BY CONTRACTOR FOR UPLOADING OF
INFORMATION
REGARDING BILLS AND FOR PAYMENT THROUGH EFT/RTGS**

ELECTRONIC FUND TRANSFER MANDATE FORM

1. CUSTOMER DETAILS:

- a. Customer Name:
- b. Customer Address:
- c. Email ID:
- d. Telephone Number:

2. ACCOUNT DETAILS:

- a. Account Number:
- b. Type of Account:
- c. Name of the Bank:
- d. Name of the Branch Address:
- e. Bank Telephone number:
- f. IFSC Code of the Branch:
- g. MICR Code of the Branch:

I hereby declare that the particulars given are correct and complete.

Date:

Seal

Customer signature

Certificate that the particulars furnished above are correct as per our records.

Date

Seal:

Signature of the Authorised official of the Bank

JE/DRG/TPJ

SSE/E/W/HQ/TPJ

ADEE/G/TPJ