

SECTION II

Schedule A:

1.0 For Underground Cable

1. Bidder has to maintain the records of allotted Cable Drum with actual Cable/Conductor length. Cable length must be measured before laying. Cable joints are to be done as per requirement only and length of cable must be utilized accordingly.
2. Cable is to be laid in Trench as per instructions of Engineer-in-Charge.
3. The trench excavation and filling—in shall be so executed that all walls, roads, sewers, drains, pipes, cables, structures, places and things shall be reasonably secured against risk of injury and shall be carried out to the satisfaction of the authorities concerned. However, if any, damages to existing services made, Contractor shall arrange and pay for any necessary repair, to make good the damages.
4. When the excavation of the trenches has been accurately executed, the contractor shall inform engineer in-charge for approval. Laying of cables shall not be started until engineer in-charge approves the trench.
5. All the related material for laying the cable in trench i.e. **Half round RCC Pipes having _both sides smooth surfaces, 25.4 mm thick , 152.4 mm inner diameter, 1000 mm long and well cured and good quality; Sand from river bed,** HDPE Pipes, GI Pipes and sundries material if any (As per Schedule B) are to be supplied by Bidder at his own Cost. All such material must be approved from concerned Engineer-in-charge before utilization and it must be ISI marked where ever applicable.
6. Cable laying work must be executed as per prescribed in Schedule B. sand filling in Trench must be done as mentioned in Schedule B. Megger test of Cable must be taken in presence of Engineer-in-charge before laying and Bidder has to maintain separate Records duly signed by Engineer-in-Charge for each results. After laying the Cable in trench it is to be covered with half round pipe of RCC as prescribed in Schedule B and approved sample. Each Half round Pipe must be marked with “PGVCL” with solid Red Colour on Top.
7. Proper methodology of laying is to be adopted by the Bidder. Bidder has to lay Cable in the stretch on small pulleys kept in the Trench so that it can be prevented from any scratches on Cable. Drum must be fixed on Drum Machine while stretching and to be kept on one end of Trench for smooth laying.
8. After completion of laying as above, remaining trench must be filled with sand. Leveling with Road is to be done after complete sand filling. No any stones or any other debris are to be utilized in filling of Trench. The contractor shall dispose of surplus material at his own cost.
9. A pre-warning PVC yellow tape 8-Inch wide and 300 microns thick (LDPE) shall also be laid. The warning tape shall be printed in RED letter (IN ENGLISH AS WELL AS GUJARATI) as **“CAUTION: 11000 VOLTS PGVCL CABLE”** and to be placed at about 300 mm To 450 mm depth from ground level along the route of cable.
10. Trench route is to be made as per instructions of concerned Engineer-in-Charge and then laying of cable in this trench accordingly.
11. Cable Laying with Mechanical Boring across the Road without disturbing the asphalt is to be done instructions of concerned Engineer-in-Charge with prior approval and work is to be executed as per Specifications in Schedule B only.

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12. For Cable kit Make (Brand) Bidder has to submit any NABL accredited Lab Type test certificate not older than Seven years and as per relevant IS 13573:2011 with latest amendment if any along with sample before installation of cable kit at concern Division office. GTP is to be submitted with Technical Bid.
13. If any Hard Rock area is encountered during the digging of Trench, Bidder must have all the modernized equipment i.e. Erath Cracker JCB etc. to execute the required Trench. Such area must be certified by a formation of Committee at Division Level headed by Executive Engineer and to be executed in presence of Engineer-in Charge.
IS 1255-1983 is to be followed for the depth of trench in such area.
14. Route Markers are to be installed at every 100 Meters length as per specifications in Schedule B The marker should incorporate the following relevant information:
 - 1) The name of the Company – PGVCL.
 - 2) Voltage – 11 KV Cable
 - 3) Distance of cable from the markerThe interval should be maximum 50/100 meters (As per EIC instructions and requirements) between two markers. It shall also be put at bends, curves, road crossing, Cable Joints etc. of cable route as per requirement over and above specified distance.
15. Empty Drums are to be credited at PGVCL respective stores at Bidders cost and Risk after successful completion and Execution of work. Otherwise Recovery will be proposed as per Section V Clause No. 20.
16. After Laying of Cable in Trench and filling of all type Cable Box and Joints, testing must be carried out with help of Voltage Surge Testing Kit as per IE Act by applying 22 KV for continuous Five Minutes and Cable must hold the satisfactory Results. Bidder must have such testing facility. Following Pre commissioned Tests are also to be carried out.
 - a) Insulation Resistance of each cable drum length after laying and before jointing.
 - b) Before laying of cable, tests for detection of damage to outer sheath, if any.
 - c) After laying each cable with end termination shall withstand a voltage of 10 KV DC for one minute between each phase to phase & phase to cable earth.
 - d) Test for 5 min. with system voltage applied between the conductor and the screen.
 - e) Continuity & Phase confirmation
17. During the Execution if any deficit found in allotted material OR in case of any theft of PGVCL allotted material, then PGVCL will recover the cost of such material from Bidder as per the prevailing Market Rates.
18. No any Advance Payment will be made after issuing of Order.
19. PGVCL will be not responsible and liable for the material supplied by the Bidder.
20. During Execution of work for Trench and Cable Laying authorized representative of Bidder who is in knowledge of Engineer-in-Charge must remain present.
21. Bidder must have to submit the List of all related Equipment and Testing facility necessary for the Tendered work while quoting the Bid.
22. PGVCL reserves the right to change/modify/alter/addition in condition in case of any dispute and holds the power to decide the final verdict.
23. GST as per prevailing rates are applicable to Bidder for this work.
24. In case of any Disputes, Superintending Engineer of Concerned area is the final Authority to take any Decision.
25. Work may be required to be executed in any 66/132/220KV Sub-Stations also.

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26. Necessary shutdown for connection/jumper of UG cable with existing network will be provided as per availability or convenience of the PGVCL which shall be acceptable to the contractor & contractor shall try to complete the work in minimum time.
27. All the sundries material like Clamps, Screws, nuts, bolts, nails etc. is at Contractor's cost.
28. Work is to be performed as per Drawing No. PGVCL/Tech/UG cable/01/14-15 and PGVCL/Tech/UG cable/02/14-15 are attached in Section XI.
29. Videography is to be carried out in case of execution of underground cable work.

2.0 For Overhead Line

1. Bidder has to maintain the records of allotted Conductor Drum with actual Conductor length. Conductor length must be measured before Stringing.
2. E/o Poles must be according to RE Standards. Pole Pit, stringing installation of Fabrication must be done as per standards and esthetically.
3. Earthing of Poles and Transformers must be as per Drawings and RE Standards. The Coal and Salt composition must be followed as per rules. The Earth Pit must be kept at a distance mentioned in Standard form the Pole. Earth Pit must be as per Drawing.
4. Concreting of Poles/Guys are to be carried out as per site situation and as per instructions of Engineer –In-Charge.
5. Construction of Transformer Structure must be as per standard with all required accessories like LA, Box and Fuse etc.
6. **Delta Type Three Earthing** are compulsory for each Transformer Centre.
7. All the jumpers at Shackle Points/DP Structures must be of "D" Type only.
8. Wherever required, Guarding as per standard must be done.
9. Pole Concreting: Whenever concreting of poles (PSC/RSJ) required, subdivision officers has to submit the proposal to the division office with all justification before commencement of work. Committee of Executive Engineer, DE Tech of Division office has to verify the submitted proposal and decide whether concreting is required or not. After the approval of committee work of concreting should be process as per specification attached herewith.
10. Bidder must have records of each work carried out with every material inventory and account thereof issued to him.
11. Bidder must have the well-drawn sketch of each work and to be submitted with Inventory sheet within 15 Days of work completion.
12. All the fabricated material and Girder Poles must be painted with Coats of Silver Oxide and without this work, work completion will not be accepted.
13. **Pole Numbering** must be completed within week time as per Engineer-in-Charge Instructions.
14. Bidder must have proper pole accounting for the work carried out by him. He must have the location details from where the poles are lifted and where these poles are utilized for each work. A separate Register is to be maintained by him and details are required to be submitted with Inventory and Sketch submission.
15. Necessary shutdown for connection/jumper of newly erected line with existing network will be provided as per availability or convenience of the PGVCL which shall be acceptable to the contractor & contractor shall try to complete the work in minimum time.
16. Successful Bidder must have ensured for that the safety Gadgets are issued to his Labour , by him, and required regulations of Safety will be followed while carrying out the line erection work.

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17. The Work for the erection of Poles, Guys, Earthing, Transformer and Concreting, Stringing and Guarding must be done as per attached Specifications and Drawings.
18. The material which is dismantled from site during the execution of work must be credited to respective Divisional stores immediately after completion of work with complete inventory and measurement details and length to weigh conversion calculations.
19. Any violation of Electricity Act 2003 Section No. 136 & 137, necessary action will be initiated against the Contractor
20. In case of any Disputes, Superintending Engineer of Concerned area is the final Authority to take any Decision.

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