



Notification of Award

Letter of Acceptance

No. MRVC-W-117-A-2/LOA

Date 25-06-2024

To,

M/s Kiran-Pravesh JV

M/s Kiran Infra Engineers Ltd. In JV with M/s Parvesh Construction.

B-141, Road No 9D,

VKI Area, Jaipur-302013,

Phone- 0141-2330305

E-mail: contact@kiraninfra.com

Kind Attention: Sh. Kishore Sharma, Director-Kiran Infra.

Contract Title: - “Design, Supply, Installation, Testing and Commissioning of Outdoor equipments/gears for Signaling works and Telecommunication works in connection with Virar (VR)-Dahanu Road (DRD) quadrupling project in Mumbai Suburban (MUTPIII).”

IFT No: - MRVC-W-117-A-2 dtd: 15-02-2024.

Project: Mumbai Urban Transport Project -III (MUTP-III).

Duration of Contract: 36 Months

Ref: Your Tender offer dated 03.04.2024

This is to notify that, your tender dated 03.04.2024 for execution of “Design, Supply, Installation, Testing and Commissioning of Outdoor equipments/gears for Signaling works and Telecommunication works in connection with Virar (VR)-Dahanu Road (DRD) quadrupling project in Mumbai Suburban (MUTP-3))” is hereby accepted for the amount of **INR 185,22,72,984.89/-** (Including GST @18%) (Rupees One Hundred Eighty Five Crore Twenty Two Lakh Seventy Two Thousand Nine Hundred Eighty Four and Eighty Nine paisa only).

1. In terms of Clause No. 13. Of GCC/SCC, you are requested to furnish Performance security in the form of demand guarantee in the amounts of 10% of accepted contract value, amounting to INR 18.55/-Cr (INR Eighteen Crore Fifty Five Lakhs) within 28 days of the issue of Letter of Acceptance (LOA). The performance security shall be valid for 12 months from the date of completion period of contract, as per the Performance Security Form in Section IX of contract forms. The performance security of a Joint Venture shall be in the name of the Joint Venture specifying the names of all members. Extension of time for submission of Performance Security beyond



28 (Twenty-Eight) 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. Further, if the 60th day happens to be a declared holiday in the concerned office of the Employer, submission of Performance Security can be accepted on the next working day.

In all other cases, if the Contractor fails to submit the requisite Performance Security even after 60 days from the date of issue of LOA, the contract is liable to be terminated. In case contract is terminated, employer shall be entitled to forfeit Tender Security and other dues payable against that contract.

The failed Contractor shall be debarred from participating in re-tender for that work.

2. In terms of Clause No. 34 of GCC/SCC and appendix 3 Section IX, you are requested to furnish Insurance cover.
3. The employer proposes the name of Sh. A K Mittal, Retired Member Engineering, Railway Board be appointed as Adjudicator under this contract and the same has been accepted by the tenderer.
4. Proposed key Personnel and Contractors Representative for EQC 2.6 is deliberated as below:

Position- Experience/No of persons	Qualification	Observation
Quality Control Engineer- 1 No. Minimum 03 years for B.E./ B. Tech, and 05 years for Diploma Holder experience of working as Quality Control Engineer.	B.E./B. Tech Or Diploma in Electronics/Electrical/Instrumentation Engineering	Sh. Srinivasan KR, Diploma in ECE Total 10 years' experience was proposed. Clarification regarding minimum period of 03 years' experience as Quality Control Engineer need submitted, or suitable replacement to be proposed before signing of contract.
Environment, Health, and Safety Engineer-1No.	Graduate in Civil or Environmental Engineering with preference in specialization	Sh. Abhishek Kumar, Diploma in Industrial Safety Civil, 12 years' experience. The proposed person does not meet the educational



Position- Experience/No of persons	Qualification	Observation
Minimum 03 Years as Environment, Health and Safety Engineer	and/or additional qualification in Occupational Health and Safety.	qualification requirement. Suitable replacement to be proposed and submitted before signing of contract.

5. Future rate reference restriction:

Future rate reference restriction: The rates for Schedule A-1 item no A1.22& A1.27 and for schedule A2 all 79 items rate shall not be taken into considerations for future references for estimation and tendering as LARs. Any positive variation in banned items A1.22, A1.27 and All A2(79 items) shall be with prior approval of accepting authority.

- 6.** The completion period of the work is 36 (Thirty-Six) calendar months from the effective date described in the Contract Agreement.
- 7.** Accepted Price Schedule/ Bill of Quantities (BOQ)- Annexure -I.

On behalf of the Employer:

Signature: _____

Name: Dinesh Kumar Vashishtha

Title/position: Chief Signal and Telecommunication Engineer (CSTE)

Mumbai Railway Vikas Corporation Ltd.

Email: cste@mrvcltd.gov.in

Annuxure-1: Accepted Price Schedule/ Bill of Quantities (BOQ)-

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
	Schedule A1 (Outdoor Signalling Supply Items)								
1	Supply of Colour Light Signal Post and Assemblies Complete. as per specifications mentioned in chapter-VII of Section VI.	A1.1	484	No.	21500.00	10406000	RDSO	7.3.1	Others
2	Supply of Non-Metallic (FRP) colour light signal housing multi-unit type for railway signalling suitable for RE area TWO Aspects. Complete without lenses, lamps and signal transformer as per specifications mentioned in chapter-VII of Section VI.	A1.2	41	No.	34000.00	1394000	RDSO	7.3.2	Others
3	Supply of Non-Metallic (FRP) colour light signal housing multi-unit type for railway signalling suitable for RE area FOUR Aspects. Complete without lenses, lamps and signal transformer as per specifications mentioned in chapter-VII of Section VI.	A1.3	443	No.	45000.00	19935000	RDSO	7.3.2	Others
4	Supply of 1 way Junction Route Indicator in FRP body without lenses and transformers as per specifications mentioned in chapter-VII of Section VI.	A1.4	21	No.	40000.00	840000	RDSO	7.3.5	Others
5	Supply of 2-way Junction Route Indicator in FRP body without lenses and transformers as per specifications mentioned in chapter-VII of Section VI.	A1.5	10	No.	50000.00	500000	RDSO	7.3.5	Others
6	Supply of 3-way Junction Route Indicator in FRP body without lenses and transformers as per specifications mentioned in chapter-VII of Section VI.	A1.6	5	No.	53000.00	265000	RDSO	7.3.5	Others
7	Supply of 5-way Junction Route Indicator in FRP body without lenses and transformers as per specifications mentioned in chapter-VII of Section VI.	A1.7	2	No.	60000.00	120000	RDSO	7.3.5	Others
8	Supply of A-sign / AG sign Signal, illuminated LED Type as per specifications mentioned in chapter-VII of Section VI.	A1.8	117	No.	8800.00	1029600	RDSO	7.3.4	Others
9	Supply of Calling-On Signal Unit in FRP as per specifications mentioned in chapter-VII of Section VI.	A1.9	71	No.	11500.00	816500	RDSO	7.3.4	Others

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
10	Supply of Offset bracket for main signal as per RDSO drawings	A1.10	121	Nos.	3000.00	363000	Consignee		Others
11	Supply of Hand Cuff Locks	A1.11	1144	Nos.	200.00	228800	Consignee		Others
12	Supply of Position Light Shunt Signal Unit Complete with Post (made of GI Pipe of 80 mm Diameter Medium Class IS Spec. No. IS: 1239 Pt. 1/1990, Base, Hood, Cover etc as per specifications mentioned in chapter-VII of Section VI.	A1.12	58	No	6500.00	377000	RDSO	7.3.3	Others
13	Supply of dependent type LED based position light shunt signal unit complete in FRP body as per specifications mentioned in chapter-VII of Section VI.	A1.13	49	No	19000.00	931000	RDSO	7.3.3	Others
14	Supply of LED Signal lighting base Unit for main Signal (Green) as per specifications mentioned in chapter-VII of Section VI.	A1.14	443	No	15000.00	6645000	RDSO	7.3.6	Electronics
15	Supply of LED Signal lighting Unit for main Signal (Yellow) as per specifications mentioned in chapter-VII of Section VI.	A1.15	927	No	14000.00	12978000	RDSO	7.3.6	Electronics
16	Supply of LED Signal lighting Unit for main Signal (RED) as per specifications mentioned in chapter-VII of Section VI.	A1.16	484	No	14000.00	6776000	RDSO	7.3.6	Electronics
17	Supply of LED Signal lighting Unit for ROUTE Indicator as per specifications mentioned in chapter-VII of Section VI.	A1.17	302	No	11000.00	3322000	RDSO	7.3.6	Electronics
18	Supply of Calling ON Signal Lightning unit as per specifications mentioned in chapter-VII of Section VI.	A1.18	71	No	10000.00	710000	RDSO	7.3.6	Electronics
19	Supply of LED Signal lighting Unit for SHUNT Signal as per specifications mentioned in chapter-VII of Section VI.	A1.19	272	No	10000.00	2720000	RDSO	7.3.6	Electronics
20	Supply of LED Signal Lighting unit for A sign as per specifications mentioned in chapter-VII of Section VI.	A1.20	117	No.	10500.00	1228500	RDSO	7.3.6	Electronics

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
	Outdoor cables Apparatus Cases and other Items								
21	Supply of PVC insulated armoured, unscreened, underground railway signalling copper conductor cable of sizes core 12 x 1.5 sq.mm as per specifications mentioned in chapter-VII of Section VI.	A1.21	1841	Km.	190000.00	349790000	RDSO	7.3.26	Cable
22	Supply of PVC insulated armoured, unscreened, underground railway signalling copper conductor cable of sizes core 6 x 1.5 sq.mm.as per specifications mentioned in chapter-VII of Section VI.	A1.22	89	Km.	170000.00 <i>(Rate banned for future LARs)</i>	15130000	RDSO	7.3.26	Cable
23	Supply of Underground Jelly filled cable 6 quad cable for S&T installation in Electrified area 0.9mm Dia as per specifications mentioned in chapter-VII of Section VI. (QTY 1740 = 1650 for Sig + 90 for Tele)	A1.23	1740	Km.	280000.00	487200000	RDSO	7.3.26	Cable
24	Supply of 24 Fiber Armoured fiber Optical Fiber Cable as per specifications mentioned in chapter-VII of Section VI.	A1.24	150	Km.	68000.00	10200000	RDSO	7.6.8	OFC
25	Supply of HDPE Telecom duct 50mm O/D & 42 mm I/D permanently lubricated Anti rodent and non-flammable propagating HDPE pipe as per specifications mentioned in chapter-VII of Section VI.	A1.25	150	Km	78000.00	11700000	RITES	7.6.9	Others
26	Supply of straight join for 48-fiber (four trays each accommodating 12 Fibers) with enclosures as per specifications mentioned in chapter-VII of Section VI.	A1.26	40	NO	4500.00	180000	Consignee	7.6.10	Others
27	Supply of Modular type full SS location with details as per specifications mentioned in chapter-VII of Section VI.	A1.27	496	No	95000.00 <i>(Rate banned for future LARs)</i>	47120000	RITES	7.3.14	Others
28	Supply of Apparatus. Case HALF SS LOCATION without E type lock as per specifications mentioned in chapter-VII of Section VI.	A1.28	156	No	60000.00	9360000	RITES	7.3.14	Others
29	Supply of E type lock as per specifications mentioned in chapter-VII of Section VI.	A1.29	602	No	2000.00	1204000	RITES	7.3.17	Others
30	Supply of ARA Terminal blocks with links made of PBT as per specifications mentioned in chapter-VII of Section VI.	A1.30	172760	Nos	85.00	14684600	RDSO	7.3.15	Others

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
31	Supply of Phenolic laminated Sheet, grade P3 in standard size of 1220 X 1220 x 20 mm as per specifications mentioned in chapter-VII of Section VI.	A1.31	75	Nos.	10000.00	750000	Consignee	7.3.23	Others
32	Supply of Phenolic laminated Sheet, grade P3 in standard size of 1220 X 1220 x 12 mm as per specifications mentioned in chapter-VII of Section VI.	A1.32	580	Nos.	6000.00	3480000	Consignee	7.3.23	Others
33	Supply of Phenolic laminated Sheet, grade P3 in standard size of 1220 X 1220 x 10 mm as per specifications mentioned in chapter-VII of Section VI.	A1.33	190	Nos.	5500.00	1045000	Consignee	7.3.23	Others
34	Supply of Phenolic laminated Sheet, grade P3 in standard size of 1200 X 1200 x 06 mm as per specifications mentioned in chapter-VII of Section VI.	A1.34	38	No.	2300.00	87400	Consignee	7.3.23	Others
35	Supply of Thermo shrink Cable Jointing kit (Reinforced) TSF-2 type generally conforming as per specifications mentioned in chapter-VII of Section VI.	A1.35	120	No.	3800.00	456000	RDSO	7.3.12 7.6.6	Others
36	Supply of Trunking and capping to Part 7 & 17 respectively to Drg.no. CSTE/6224A as per specifications mentioned in chapter-VII of Section VI	A1.36	80000	Nos.	730.00	58400000	UTES	7.3.22.	Others
37	Supply of RCC pipes half round of size 200mm dia outer and 150 mm dia internal 1 mtr long as per specifications mentioned in chapter-VII of Section VI.	A1.37	15000	Nos.	200.00	3000000	UTES	7.3.19.	Others
38	Supply of DWC HDPE pipe with one snap fit coupler and 'O' ring fire resistant, anti-rodent, in 6 meter length of size 120 mm outer dia as per specifications mentioned in chapter-VII of Section VI. (QTY 6076 = 5272 for Sig +804 for Tele).	A1.38	6076	mtr	350.00	2126600	UTES	7.3.27	Others
39	Supply of GI pipe, inner diA1. 100mm diA1. B-class as per specifications mentioned in chapter-VII of Section VI. (QTY 2400 = 2100 for S&T cable + 300 For Tele Emergency Socket).	A1.39	2400	mtr	1200.00	2880000	UTES		Others

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
	Supply and installation of Maintenance free Earth for outdoor gears								
40	Supply of Maintenance Free Safe Earth Electrode as per specifications mentioned in chapter-VII of Section VI. (QTY 40 = 19 for sig+ 21 for Tele)	A1.40	40	SET	20000.00	800000	RITES	7.3.18	Others
41	Supply of 35 Sq.mm Multistrand Single Core PVC Insulated Copper for connecting earth bus bar to earth electrode. (QTY 5200 = 4000 for sig+ 1200 for Tele)	A1.41	5200	Mts	525.00	2730000	RITES	7.3.24	Others
42	Supply of Copper Tape 25 x 6 mm (Bonding Ring Conductor) Mounted on insulated standoff (1 round)	A1.42	1140	Mts	1000.00	1140000	RITES	7.3.24	Others
43	Supply of Conventional earth electrode as per specifications mentioned in chapter-VII of Section VI.	A1.43	1086	Nos.	1450.00	1574700	RITES	7.3.18	Others
44	Supply of Lightening & Surge protection device, Single phase + neutral (housed in a suitable impact resistance box) for providing B-class protection as per specifications mentioned in chapter-VII of Section VI.	A1.44	57	SET	15500.00	883500	RITES	7.6.15	Others
	Point machines, KLCR boxes etc.								
45	Supply of Electric Point Machine Non Trailable Design, 143 mm throw with lock detector, cable termination box and slide for lock and detector, low thrust rotary locking type, AC immunity 160V AC as per specifications mentioned in chapter-VII of Section VI.	A1.45	243	No	70000.00	17010000	RDSO	7.3.21	Others
46	Supply of Electric point machine, Non trailable, internal locking, 220 mm throw, with IP67 motor, Minimum AC immunity 400 VAC, with tools & complete accessories including complete ground connection and all insulation, crank handle and along with clamp point lock 60 kg, TWS as per specifications mentioned in chapter-VII of Section VI.	A1.46	12	No	110000.00	1320000	RDSO	7.3.21	Others

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
47	Supply of Ground connections, complete set suitable for IRS type/approved point Machine for derail switch with tongue attachment insulation as per specifications mentioned in chapter-VII of Section VI.	A1.47	243	Set	10000.00	2430000	RDSO	7.3.21	Others
48	Supply, fabrication, fixing & wiring of wiring tree suitable to Siemens points machine as per sample given by Railway. This includes the supply of terminal plate with '8' terminal=02 nos. (Type SG 550901-0209034-001 for Siemens point machine), multistrand copper wire, dressing with thread & provision of copper lug of required size. This includes cost of 02 nos. wiring tree per machine.	A1.48	255	Per Machine	2400.00	612000	Consignee		Others
	Track circuits and Track Relays etc.								
49	Supply of Relays AC immunized Neutral Track 9 ohms (QTA2) Supply of QTA2 relays AC immunized plug in type DC 9 Ohm neutral track relay miniature tractive armature with 2F/1B contacts as per specifications mentioned in chapter-VII of Section VI.	A1.49	356	No.	5000.00	1780000	RDSO	7.2.2	Others
50	Supply of QBAT track Relay, AC immunized, 2F-2B contacts, 9 ohms. complete with plug board, retaining clip & connectors as per specifications mentioned in chapter-VII of Section VI.	A1.50	30		8800.00	264000	RDSO	7.2.2	Others
51	Supply of Relay QSPA1, 24VDC, Slow to pick up, 8F.4B along with plug board, retaining clip and connectors as per specifications mentioned in chapter-VII of Section VI.	A1.51	356	No.	5900.00	2100400	RDSO	7.2.2	Others
52	Supply of Track feed battery chargers, 110V AC input 2, 4 to 6 V DC Output as per specifications mentioned in chapter-VII of Section VI.	A1.52	356	No.	3250.00	1157000	RDSO	7.3.7	Others
53	Supply of adjustable Track Feed Resistance disc type 7.5/15/30 ohms as per specifications mentioned in chapter-VII of Section VI.	A1.53	356	No.	1730.00	615880	RDSO	7.3.8	Others
54	Supply of B type choke as per specifications mentioned in chapter-VII of Section VI.	A1.54	356	No.	4100.00	1459600	RDSO	7.3.9	Others

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
55	Supply of Track Lead Junction Boxes as per WRly practice made from fiber glass along with terminal blocks as per specifications mentioned in chapter-VII of Section VI.	A1.55	1424	No	1300.00	1851200	MITES	7.3.10	Others
56	Supply of low maintenance Lead Acid Secondary Cells 2V 80 AH as per specifications mentioned in chapter-VII of Section VI.	A1.56	712	No	2650.00	1886800	RDSO	7.2.11	Others
57	Supply of PVC jacketed wire rope for Track Lead connections. PVC jacketed wire rope should be of Galvanized steel wire rope 6 mm dia (6x19 stranded wire with steel core of 6 mm dia) sheathed with PVC 2mm wall thickness, overall thickness being 10 mm. PVC sheath should be made of type 6 compound.	A1.57	4000	MTR	70.00	280000	Consignee		Others
58	Supply of Drill bits 7.2 mm	A1.58	30	No.	130.00	3900	Consignee		Others
59	Supply of Channel Pins single groove, galvanized, 7 mm suitable for 4mm dia bonding wire.	A1.59	3560	No.	2.70	9612	Consignee		Others
60	Supply of Fuse block 2 Amp	A1.60	179	No.	157.00	28103	Consignee	7.3.16	Others
61	Supply of Non-deteriorating type fuse 2 Amp	A1.61	179	No.	75.00	13425	Consignee	7.3.16	Others
	AWS								
62	Supply of AWS Track Magnets 'A1'/'A2'/'B1' type Siemens make. Qty. of each type of Track Magnet to be advised by Engineer-in-charge before making supply. Cat No. S25432-M1-A1-10	A1.62	398	Nos.	150000.00	59700000	RDSO	Annexure 15 of chapter-VII of Sec-VI	Others
63	Supply of Optocoupler box & safety cover of FRP for fixing Siemens type optocoupler cards inside box for installation of AWS with mounting clamps as per W. Rly. Drg. & practice.	A1.63	398	Nos.	19000.00	7562000	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
64	Supply of Siemens make C. Railway type Hu/Husp/Hsp type Opto Coupler Cards Siemens MAKE. Qty. of each type of card to be advised by Engineer-in-charge before making supply. DrG No RSG/AWS/006H1C,RSG/AWS/006H3C.RSG/AWS/004BI C,RSG/AWS/004B3C.	A1.64	398	Nos.	16500.00	6567000	Consignee	Annexure 15 of chapter-VII of Sec-VI	Electronics

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
65	Supply of PVC flexible wire of size 48/ 0.2 mm annealed copper conductors as per specification IS 694 : 1990 of Finolex make or similar for connecting optocoupler box to signal transformer fixed inside signal unit/ location boxes as per standard practice. (30% green, 20% yellow, 20% red, 10% white, 10% blue & 10% black colour wires are to be supplied.).	A1.65	7960	Mtrs.	32.00	254720	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
66	Supply of GI Reducer of size 40 mm/ 20 mm as per specification IS 1239 (Part 2) : 1992 " Medium" class for installation of AWS.	A1.66	398	Nos.	240.00	95520	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
67	Supply of Stainless Steel clamps of SS-304 type and size 'B' for fixing Neoprene rubber tube on reducer & six pin coupler of track magnet and PVC Conduit pipe with glands fixed on signal post & optocoupler box.	A1.67	796	Nos.	110.00	87560	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
68	Supply of copper lugs of various sizes of Dowells make or similar for terminating cable conductors inside optocoupler boxes, junction boxes and on signal transformers etc. for installation of AWS.	A1.68	7960	Nos.	60.00	477600	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
69	Supply of brass glands having nipple on both side, threaded inside & plain outside for installation of AWS.	A1.69	796	Nos.	185.00	147260	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
70	Supply of Neoprene Rubber Pipe of suitable size for taking 7 core cable from reducer to six pin coupler of track magnet for installation of AWS.	A1.70	1990	Mtrs.	1200.00	2388000	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
71	Supply of PVC flexible Pipe of internal dia of 25 mm for taking cable conductors from signal post to optocoupler box for installation of AWS. The sample shall got be approved before supply.	A1.71	6368	Mtrs.	320.00	2037760	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
72	Supply of screened 7 core PVC insulated copper cable having each core made up of 30 x 0.25 mm tinned stranded copper conductors for AWS generally confirming to IRS :S76/89 - Siemens Spec. RSG/AWS/0035.	A1.72	1990	Mtrs.	1200.00	2388000	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
73	Supply of Track magnet Clamps with 6 pin plugs for fixing with rail suitable for both 52 Kg & 60 Kg rail for 'A1'/A2/B2 type Track Magnets. 6 Pin Plug Cat No C25334-Z4-C155.	A1.73	398	Nos.	23000.00	9154000	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
74	Supply of GI pipes of nominal bore 40 mm with sockets as per specification IS 1239 (Part 1) : 1990 "Medium" class in length of approximately 6 meters. Manufacturer's test certificate is to be submitted by the contractor.	A1.74	2388	Mtrs.	420.00	1002960	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
75	Supply of Cycle chain Machine for drilling hole in rail	A1.75	3	No.	18000.00	54000	Consignee		Others
76	Supply of RFID Marker Locator, 8000 Marker records, Built in GPS Module, 1.5m Depth Range 4 X 20 Digit LCD Display for 101.4kHz Telecom Markers. FID Marker locator provided complete with Marker Database software and cloud data storage service facility (unlimited data storage) Make :Komplex or Similar	A1.76	1	No.	450000.00	450000	Consignee		Others
77	Supply of AWS Tools kit as per ANNEXURE	A1.77	7	Nos.	50000.00	350000	Consignee	Annexure 15 of chapter-VII of Sec-VI	Others
	Schedule B1 (Outdoor Signalling Execution Items)								
	Colour Light Signals								Labour
78	Casting of CC foundation for signal post as per specifications mentioned in chapter-VII of Section VI	B1.78	484	No.	12500.00	6050000		7.5.2	Labour
79	Installation of Signal Post and signal Unit as per specifications mentioned in chapter-VII of Section VI	B1.79	484	No.	4000.00	1936000		7.5.4	Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
80	Fixing of Calling-on Signal/A-Sign/AG-Sign unit on signal post. The item includes fixing of Co- On signal /'A' sign/ 'AG' sign unit on signal post with bracket, hood etc. Item includes supply bracket & fixing materials etc. by the contactor. The item also includes termination of cables & wiring inside Co- On signal /'A' sign/ 'AG' sign unit as per standard practice and unit wiring with flexible wire. as per specifications mentioned in chapter-VII of Section VI	B1.80	188	Nos.	3000.00	564000		7.5.4	Labour
81	Fabrication and fixing of Signal Number Plate, 'A' Marker, 'AG' Marker, 'P' Marker, Arrow Marker, 'G' Marker, 'C' Marker. marker disk on signals as per specifications mentioned in chapter-VII of Section VI	B1.81	600	Nos.	1400.00	840000		7.3.28 7.5.5	Labour
82	Casting of CC foundation for position light shunt signal as per specifications mentioned in chapter-VII of Section VI	B1.82	58	No	3500.00	203000		7.5.2	Labour
83	Installation, erection and wiring of independent position light shunt signal/'F' marker. This includes fixing of shunt signal, surface base signal post, LED signal unit/ lenses, lamp hood and wiring of shunt unit and focusing the signal as per specifications mentioned in chapter-VII of Section VI. All material such as wire, nut& bolt etc. will be supplied by the contractor. Inspection: Site Engineer	B1.83	58	No	550.00	31900		7.5.4	Labour
84	Fixing of Dependent type Shunt Signal unit with offset bracket as per specifications mentioned in chapter-VII of Section VI.	B1.84	49	No	2100.00	102900		7.5.4	Labour
85	Supply and fixing of Protective screen of expanded metal 12 SWG of size 1200 x 1500 mm on signals as per standard practice as per specifications mentioned in chapter-VII of Section VI.	B1.85	19	NO	4800.00	91200		7.5.4	Labour
	Excavation, Cable laying and termination								Labour
86	Laying of HDPE duct in trench and its protective work as per specifications mentioned in chapter-VII of Section VI and as per direction of site engineer.	B1.86	150	km	7500.00	1125000		7.5.7	Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
87	Splicing of optic fiber cable and making the splice joint with contractor's own splicing machine and tools.	B1.87	40	No.	8500.00	340000			Labour
88	Blowing and drawing of OFC through laid HDPE duct already provided in the trench as per approved cable route plan, taking due care while transporting and sealing both the ends after laying as per specifications mentioned in chapter-VII of Section VI.	B1.88	120	km	15800.00	1896000			Labour
89	Casting of CC foundation for SINGLE apparatus cases as per specifications mentioned in chapter-VII of Section VI	B1.89	496	No.	13500.00	6696000		7.5.1	Labour
90	Casting of CC foundation for HALF/SS apparatus cases as per specifications mentioned in chapter-VII of Section VI	B1.90	156	No.	12500.00	1950000		7.5.1	Labour
91	Installation of SINGLE apparatus cases as per specifications mentioned in chapter-VII of Section VI	B1.91	496	No.	1400.00	694400		7.5.3	Labour
92	Installation of HALF/SS apparatus cases as per specifications mentioned in chapter-VII of Section VI	B1.92	156	No.	1050.00	163800		7.5.3	Labour
93	Installation of Eqpt. (Relays, resistance, charger's batteries etc.as applicable) & wiring of the same in apparatus Cases as per location diagrams & circuit diagrams, as per specifications mentioned in chapter-VII of Section VI								
i	Writing works inside A/C single;	B1.93.i	496	No.	1800.00	892800			Labour
ii	Writing works inside A/C HALF;	B1.93.ii	106	No.	1600.00	169600			Labour
iii	Cement concrete work for miscellaneous items	B1.93.iii	200	CUM	7750.00	1550000			Labour
iv	Providing brick masonry in ratio 1:6 cement and mortar	B1.93.iv	10	CUM	3000.00	30000			Labour
v	Fixing of ARA terminals and fuse block with provision of holes on hylum sheet and fixing by galvanized nuts & bolts	B1.93.v	172000	Nos.	18.00	3096000			Labour
94	Fabrication of Hylum sheet on MS angle/slotted angle in loc box								

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
i	Single apparatus case.	B1.94.i	496	No	3200.00	1587200			Labour
ii	Half apparatus case.	B1.94.ii	106	No.	2700.00	286200			Labour
	Digging and laying of Outdoor cables.								Labour
95	Digging of 1 M deep and 0.3M wide in all type of soil as per specifications mentioned in chapter-VII of Section VI	B1.95	39000	Cu.m	400.00	15600000		7.5.6	Labour
96	Digging of cable trench 0.3 mtr Deep,0.3 mtr wide on asphalted platform / road as per specifications mentioned in chapter-VII of Section VI	B1.96	225	Cum	3200.00	720000		7.5.6	Labour
97	Track Crossing 1 mte deep x 0.3 mtr wide as per specifications mentioned in chapter-VII of Section VI	B1.97	1318	Cum	1000.00	1318000		7.5.6	Labour
98	Horizontal direction drilling without damage to surface road manual or using Auger Machine of dimension 100mm as per specifications mentioned in chapter-VII of Section VI	B1.98	5000	RM	2400.00	12000000		7.5.6	Labour
99	Laying of S&T Cables of various cores/ pairs/ quads in trenches/ GI pipes/ RCC pipes/ DWC pipes/ Trunking/PVC cable channel. This also includes laying of cables in track crossings & road crossings as per specifications mentioned in chapter-VII of Section VI	B1.99	3580	KM	9000.00	32220000		7.5.9	Labour
100	Laying of trunking and Capping in trenching as per specifications mentioned in chapter-VII of Section VI	B1.100	80000	RM	85.00	6800000		7.5.7	Labour
101	Laying of half round pipe directly above cables in trenching as per specifications mentioned in chapter-VII of Section VI	B1.101	15000	RM	45.00	675000		7.5.7	Labour
102	Transportation and Placing of DWC/GI/ RCC pipe in trench as per specifications mentioned in chapter-VII of Section VI	B1.102	6076	RM	80.00	486080		7.5.7	Labour
103	Fixing of GI pipes for crossing the culverts, bridges etc. and concreting of ends with brick masonry at both ends as per specifications mentioned in chapter-VII of Section VI	B1.103	2100	Mtr	120.00	252000		7.5.8	Labour
104	Preparation of cable pit as per specifications mentioned in chapter-VII of Section VI	B1.104	19	CUM/ No.	15000.00	285000		7.5.11	Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
105	Supply and installation of RCC cable route marker engraved and painted on both side along the route every 50 m and route diversion as per Drg. No 4014/00/CC4 or latest/ Stone marker.	B1.105	5000	No.	550.00	2750000	Consignee	7.3.13	Labour
106	Supply and installation of electronic passive cable route marker with frequency 101.4 KHz Diameter 12 cm, Thickness 34mm, Depth capability 1.5 meter	B1.106	5000	No.	1300.00	6500000	Rites		Labour
107	Termination of outdoor cables as per specifications mentioned in chapter-VII of Section VI	B1.107	173560	No	15.00	2603400		7.5.10	Labour
108	Removal of rails	B1.108	900	Nos.	150.00	135000			Labour
109	Removal of sleepers	B1.109	900	Nos.	150.00	135000			Labour
	Installation of Earthing of signal gears								Labour
110	Installation of Conventional earth electrode as per specifications mentioned in chapter-VII of Section VI.	B1.110	1086	Nos.	3500.00	3801000		7.3.18	Labour
	Point machines, KLCR boxes etc.								Labour
111	Fixing of Electrical point Machine on the extended sleepers as per specifications mentioned in chapter-VII of Section VI	B1.111	255	No	8000.00	2040000		7.5.12	Labour
112	Installation of Insulation block joint point insulation complete with nut bolts etc as per specifications mentioned in chapter-VII of Section VI	B1.112	243	No.	1500.00	364500			Labour
	Painting								Labour
113	Complete painting varnishing work at Station as per specifications mentioned in chapter-VII of Section VI	B1.113	63	per stn	90000.00	5670000		7.5.17	Labour
	Dismantling								Labour
114	Dismantling of Outdoor signalling gears	B1.114	100	Gear	2000.00	200000			Labour
115	Releasing of existing Relay Room and Axle counter room materials, includes indoor items complete.	B1.115	42	L.S.	59000.00	2478000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
116	Releasing of lever frame, old location boxes, signal posts, equipment inside the location boxes, lifting barrier, rodding run, cranks, compensators, relays and relay racks, power equipments etc as applicable including breaking of foundation etc as per the instruction of Rly engineer at site & their transportation to SSE in charge at nominated depot.	B1.116	7	LS	94000.00	658000			Labour
117	Charging of Secondary cell 2 V 80 AH as per specifications mentioned in chapter-VII of Section VI	B1.117	712	No	500.00	356000		7.4.8	Labour
118	Installation of DC track circuits as per specifications mentioned in chapter-VII of Section VI	B1.118	356	TC	7500.00	2670000		7.5.13	Labour
119	Fixing and wiring of DC track circuit equipments as per specifications mentioned in chapter-VII of Section VI	B1.119	356	TC	6800.00	2420800		7.5.14	Labour
120	Installation of TU/TLJB foundation with track connections as per specifications mentioned in chapter-VII of Section VI.	B1.120	1424	Nos.	1600.00	2278400		7.5.13	Labour
121	Fixing & wiring of all types of relays as per instruction as per specifications mentioned in chapter-VII of Section VI.	B1.121	356	No	475.00	169100		7.5.14	Labour
	AWS								
122	Fixing of track magnet as per C. Rly.Drg.no. RST-11472/4 with anti-theft clamp. (Note : Track magnets are to be covered with metal sheet temporarily till final testing & commissioning. These sheets are to be removed just before commissioning.)	B1.122	484	Nos.	750.00	363000		Annexure-15 of chapter-VII of Sec-VI	Labour
123	Fixing of optocoupler junction box on signal post and providing cable gland (25mm diA1.) on signal post after drilling holes and tapping threads on signal posts.	B1.123	484	Nos.	950.00	459800		Annexure-15 of chapter-VII of Sec-VI	Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
124	Laying and fixing of GI pipes of 40mm dia in trenches & along signal post from A1/A2/B2 type track magnet to opto coupler box and connecting it to opto coupler box on the signal post with proper clamps, elbow, bend etc. Clamps for fixing GI pipe on signal post, other fixng materials including GI nut-bolts of suitable sizes are to be supplied by contractor.). This item includes cutting of GI pipe of suitable length and threading of pipe for their proper coupling arrangement before laying.	B1.124	484	Nos.	550.00	266200		Annexure-15 of chapter-VII of Sec-VI	Labour
125	Laying of 7 core PVC insulated cable through GI pipe and Neoprene rubber pipe between optocoupler box and six pin couplers of A1/A2/B2 type track magnets. Termination of cable conductors on optocoupler card with help of crimped lugs with proper dressing. PVC numbering sleeve is to be provided on cable conductor on optocoupler box side. 7 core PVC cable on 6 pin coupler is to be soldered & PVC sleeve is to be provided as per standard practices followed by Railways. After soldering six pin coupler is to be properly sealed by silicon sealant compound. Insulation tape, lugs, GI nuts- bolts etc. will be supplied by the contractor.	B1.125	484	Per Track Magnet	550.00	266200		Annexure-15 of chapter-VII of Sec-VI	Labour
126	Laying flexible wire between Main/Route/Auxiliary signal units and optocoupler box through signal post and reinforced PVC flexible conduit pipe and termination at both ends with appropriate size copper lugs. Wires are to laid only after proper lacing and dressing with lacing thread. PVC flexible pipe is to be properly fixed with glands on signal post & optocoupler cards with help of SS clamp as shown in drawing.	B1.126	484	Per Signal Post/Optocoupler Box	300.00	145200		Annexure-15 of chapter-VII of Sec-VI	Labour
127	Testing of track magnets by test jig and commissioning of complete AWS equipments as per standard practices on Central Railway and instruction of site incharge after installation at site. (Testing report is to be submitted before commissioning).	B1.127	484	Nos.	1070.00	517880		Annexure-15 of chapter-VII of Sec-VI	Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
	Miscellaneous								
128	Supplying and placing on levelled ground Porta cabin size 9.14m x 3.05m x 2.6m factory made by fabricated sections covered with 1.2mm thick galvanized sheet all around with painting and inside covered by MDF sheet, false ceiling, with tables and revolving chairs, table, door with hydraulic door closer, sliding windows & Air Conditioning (as per requirement as directed by engineer in charge), toilet and its fittings like wash basin, European W.C. including flushing tank, water taps (excluding out side water connection, storage water tank, drainage line, sock pit etc) electrical fittings like fans & tube lights and its wiring, switches etc. complete as per approved plan and directed by Engineer. Note- 1) The electric connection for porta cabin shall be arranged by the contractor and the recurring bills for electricity (including that of Air conditioning) shall be paid by the contractor. 2)Any other electrical, plumbing items required will be paid as per relevant items. 3) Complete maintenance of all fittings and recurring bills shall be paid by the contractor till completion of this work.	B1.128	3	Lot	1200000.00	3600000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
129	Provision of maintenance of storage facility for safe custody and upkeepment of S&T materials & equipment of all kinds intended for use in carrying out the proposed works by setting up suitable store depot in private premises nearby Borivali-Virar section of Western Railway. The rate includes contractors' own arrangement for suitable build up area of Aprox.1000 sqft. as approved by the engineer, watchman for security of materials, transportation, electric supply, furniture & taxes etc, complete. The number of stores shall be 1 or 2 or 4 as per the required however total store-month will be as per the quantity.	B1.129	144	per store month	65000.00	9360000			Labour
130	Hiring of AC vehicle (Scorpio/Ertiga or equivalent) with driver in a month for transporting MRVC officials as per specifications mentioned in chapter-VII of Section VI	B1.130	108	Per Month	80000.00	8640000		7.7.6	Labour
131	Hiring of AC vehicle FOR CSTE OFFICE (Innova or similar) with driver in a month for transporting MRVC officials as per specifications mentioned in chapter-VII of Section VI	B1.131	96	Per Month	80000.00	7680000		7.7.6	Labour
132	Transportation of signalling material/equipments including loading and unloading in 10MT vehicle, anywhere to anywhere (One consignee to another consignee or from another division) and stacking at destination as per instructions of SSE in-charge as per inventory. For carrying heavy materials like cable drums, DG set, Electrical Lifting barrier pedestal, IPS, Batteries, Point machine etc. This item is applicable to only these items which are not covered in the supply schedule i.e. the items are to be provided by Railways.	B1.132	20,000	Per Ton/ Per KM	52.00	1040000			Labour
133	Loading & unloading & transportation of material from the Stores of SSE (Sig) depot to any other nominated place & vice-versa with the permission of Engineer In Charge. (This item is applicable only for those items which are not covered anywhere in the schedule in the supply or execution.)	B1.133	8000	Per Ton/ Per KM	6.00	48000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
134	Provision of safety enforcers and data loggers to Engineer-in-charge of MRVC during currency of the contract in terms of clause no. 11.14.5 of Part 1 of general specification								
i	One Passenger safety enforcer	B1.134.i	48	Per Month	35000.00	1680000			Labour
ii	One site safety enforcer	B1.134.ii	48	Per Month	28000.00	1344000			Labour
iii	One MIS data logger OPERATOR	B1.134.ii i	48	Per Month	28000.00	1344000			Labour
135	Skilled manpower to be provided by contractor for Engg JCBs working to provide marking & supervisory work for the S&T cables during digging work by JCBs and repairing /restoring/jointing of cables, if damaged. Cables & Joints Material will be provided by railway. White Chuna marking will be done by his/her. Chuna will be provided by contractor. Information for deputing skilled manpower for above work will be provided by Railway Engineer incharge before 24 hours from commencement of digging by JCBs. They will check cables route by Cable route tracer and will do chuna marking and will show the cables (on rough sketch) available in a small length approximate 50-100 meters of digging. Note:- Minimum two man will be provided at a time including Cable jointer. they will stay whole time during JCB digging work.	B1.135	2496	Man-Days	1000.00	2496000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
136	Preparation of drawings by the contractor's draftsman by manual or through computer software such as AutoCAD etc. The work includes preparation of drawings for temporary work, modification in the existing drawings, general drawings or any other drawings as directed by the Engineer. Note:- - The person deployed should be well conversant with working on computers and software like AutoCAD OR similar software. - Payment will be made for carrying out above activities in shifts of 10.00 hours each on all working days.	B1.136	72	Per Month	42000.00	3024000			Labour
137	Provision of temporary Goomty of 3X3X2.5 mtr on hire for NI working made up of waterproof tent with provision of 1 table, 1 chair and two incandescent lamps. (Electrical connection will be provided by Rlys.)	B1.137	160	per Goomty day	1000.00	160000			Labour
138	Vacuum Free packing in Anti-static Bags of all the cards and then wrapping it with bubble plastic. All card and its accessories should be than packed in Proper 2 layer hard corrugated Box. This also include complete wrapping of RACK/Cabinet with double Bubble plastic and single Layer Corrugated paper.	B1.138	19	Sets.	12000.00	228000			Labour
139	Hot dip Galvanizing as per RDSO Specn. ETI-OHE-13 [4/84] - Signal post, OFF Set Brackets dia 140mm and length upto 5600 mm./Location boxes, including to and fro transportation.	B1.139	34848	KG	60.00	2090880			Labour
140	Hot dip Galvanizing as per RDSO Specn. ETI-OHE-13 [4/84] - Misc. M.S. Fabricated items like point rodding's, P/D Brackets etc. length up to 1200mm including to and for transportation.	B1.140	13720	KG	50.00	686000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
141	Fixing of "C" Channel Clamps on Girders. Along with proper coupling of GI/DWC pipes. The work will be executed as per instruction of site in charge and site in charge may take decision as per site condition. All the fixtures, nut bolts, tolls required to fix the channel will be provided by contractor. Proper safety equipment like Helmet, Retroreflective Jacket and whistle, flag is to be made available during execution of work.	B1.141	225	Nos	500.00	112500			Labour
142	Supply and Installation of Modular cable sealing system, for cable entries in to relay room based on multidiameter technology. Roxtec make Galvanized Frame G 6x3 or similar with EPDM Module, Stay Plate, Wedge, Assy gel etc. complete with all mounting/fixing accessories and modules.	B1.142	19	Set	100000.00	1900000			Labour
143	Provision of bonding with contractors PVC jacket wire rope of Galvanized steel wire 6mm dia (6x 19 strands wire with steel core of 6 mm dia) sheathed with PVC 2mm wall thickness, overall thickness being 10mm for track jumper & fish plate joints bonds. PVC sheath should be made of type 6 compound as per IS 5831 of 1970 or latest. Reclaimed or recycled material should not be used. This will include drilling of 7.1 mm dia holes in rails (4Nos) and provision of two jumpers for each bond, clamping of bonds etc with contractor's own materials and tools as per instruction of railway engineer at site.	B1.143	600	Nos	180.00	108000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
144	Shifting of existing Full Location Boxes coming in the alignment of doubling. The work includes losing & removal of soil around location boxes by excavating soil around foundation, making of pit for shifting of location box horizontally opposite to railway track up to 0.5 to 1.0 mtr. This includes loosening of existing cable coils without any damage. The excavated soil shall be back filled after shifting of Location Boxes. Location box along with its foundation shall be shifted by push method with the help of jacks or by crane by contractors' own expenditure under instructions of engineer in-charge at site. Any minor repairs in foundation due to patching shall also be carried out by contractor as per instruction of Engineer incharge. The work may affect train working hence the work shall be done as per margin only or during traffic block only.	B1.144	80	Per Loc Box	7000.00	560000			Labour
145	Shifting of existing Half Location Boxes coming in the alignment of doubling. The work includes losing & removal of soil around location boxes by excavating soil around foundation, making of pit for shifting of location box horizontally opposite to railway track up to 0.5 to 1.0 mtr. This includes loosening of existing cable coils without any damage. The excavated soil shall be back filled after shifting of Location Boxes. Location box along with its foundation shall be shifted by push method with the help of jacks or by crane by contractors' own expenditure under instructions of engineer in-charge at site. Any minor repairs in foundation due to patching shall also be carried out by contractor as per instruction of Engineer incharge. The work may affect train working hence the work shall be done as per margin only or during traffic block only.	B1.145	40	No.	6000.00	240000			Labour
146	Shifting of exposed cables. The item includes removal of exposed cable from existing trench & laying the same in new trenches. Digging, Placing of capping/Half round RCC pipe covered separately.	B1.146	300	km	8000.00	2400000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
147	Making an entrance for new cable in old existing location, casting concreting and curing of foundation and restoring it to old position by perfect masonry/concreting work. Contractor will ensure that cable entered in Location Box is properly protected.	B1.147	540	Nos	700.00	378000			Labour
148	Patching work in old location box consisting 1) Digging of pit, cleaning of earth from all sides, breaking of seal of location boxes removal sand from location, marking of new cable holes 2) insertion of cable from ground 3) making place for cable termination in old location, shifting ARA, fuse etc after removal and termination including fixing of ARA1. 4) Termination of cable in old location 5) Filling of sand and plastering to all sides upto 50mm below ground level.	B1.148	540	No	6500.00	3510000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
149	Transferring of S&T cables from existing location box to new location box. The work includes breaking dismantling of existing foundation of location, excavating and removing/segregating coils of cables which may be about 10 mts in length. These cables are to be disconnected and removed from the existing location one by one as per the instruction and under the supervision of railway engineer present at site. The cable is then to be inserted and terminated in new location box, The item includes dressing of cable, making of wiring tree. The material required for lacing/dressing shall be arranged by contractor. The work is required to be done systematically with due precaution during the block or disconnection within the time that is allowed. The excavation work to be done carefully without damaging the cable to avoid any failure. (Termination charge will be given separately). Note: Proportionate payment will be made if cable of other length One No. unit- One cable of 10 m length.	B1.149	1300	Nos	700.00	910000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
150	Releasing of cables from old location boxes and taking it into new location boxes. This includes excavating the earth to release the cables from old location box for taking it into new location. This also includes releasing the old location box and bringing it to nearest station / central cabin. Location (old) will be released only after ensuring all working cables have been shifted in New location.	B1.150	18	Per location	2100.00	37800			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
151	Construction of Concrete platform around Location box foundation including steps, wherever required. The work includes Preparatory work like removing muck from surroundings of location box, disposal of muck away from embankment of tracks, surface levelling for construction of concrete plat form. Preparation of wooden frame along with required wooden planks for the concrete work, supply and transportation of all required materials, viz. cement, sand, gravel, water, concrete mixing tools etc. by deploying labours from station to site shall also inclusive. The work shall be carried out with smooth finishing on platform flooring and standard curing of concreting shall be done as per standard practice. Note: The Location box work sites are between the stations, Borivali to Virar Section. Location box sites are not road accessible. Transportation of work materials to site shall be done by deploying labours from nearest station. Arranging all required materials, transportation and concrete platform construction, flooring finishing and debris removal from work site shall be carried out by the contractor.	B1.151	602	Per location box.	25000.00	15050000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
152	Removal of excavated/slip earth/ debris/ malba from the site of works to any other place outside Railway land/premises, including all excavations, handling, re-handling, loading, unloading and leading, etc. all Labour and material as a complete job. Removal of Earth (all kinds of soils)/ROCKS, BOULDERS including mud/slush, slipped earth in catch water drains, side drains, over berms in cutting, water way of bridges, over coping of toe/breast/retaining walls etc. including crossing of nallah, railway tracks, making/repairing approach roads if required, all lead, lift, ascent, descents, or any other obstruction. Earth spoils to be dumped outside the cutting or railway embankments as per direction of Engineer in charge	B1.152	45	Cu.M	150.00	6750			Labour
153	Execution of S&T work related to engineering block of CTR/TRR/TSR or others, in one block, 5 unskilled manpower to be provided during the block for S&T gears removing and refixing as per Railway site engineer instruction	B1.153	2000	Job	3500.00	7000000			Labour
154	Lettering / Numbering of Signals, Point Machine, Track Lead Junction Boxes, Block Joints, Apparatus Cases etc. (each item to be taken as One Unit) This work will be carried out as per the standard practice being followed in Railway.	B1.154	3206	No.	60.00	192360			Labour
	SCHEDULE - A2 (Telecom Supply items)								
	Train Indicator Boards And PA System								
1	Supply of Industrial grade PC for operation of PC based train indicator & announcement System as per Specification mentioned in chapter-VII of Section VI.	A2.1	10	Nos.	270000.00 <i>(Rate banned for future LARs)</i>	2700000	MITES	7.6.17	Electronics
2	Supply of 1 KVA Online UPS having one hour backup on full load as per Specification mentioned in chapter-VII of Section VI	A2.2	9	Nos.	30000.00 <i>(Rate banned for future LARs)</i>	270000	Consignee	7.6.22	Electronics

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
3	Supply of Eight Channel isolated RS-232 to Rs- 485 converter board. as per Specification mentioned in chapter-VII of Section VI.	A2.3	9	Nos.	31000.00 <i>(Rate banned for future LARs)</i>	279000	Consignee	7.6.25	communication
4	Supply of Three core (1.5 sq mmx3), PVC insulated Copper, flexible power cable with ISI certification in overall PVC jacket.	A2.4	500	meter	45.00 <i>(Rate banned for future LARs)</i>	22500	Consignee		other
5	Supply of PA Amplifiers as per Specification mentioned in chapter-VII of Section VI (clause 7.6).	A2.5	20	Nos.	45000.00 <i>(Rate banned for future LARs)</i>	900000	Consignee	7.6.24	Electronics
6	Supply of Microphone AUD-99 MS of Ahuja / Phillips or similar with microphone cable of suitable length and Microphone stand table.	A2.6	9	No.	11000.00 <i>(Rate banned for future LARs)</i>	99000	Consignee		other
7	Supply of Dual Band GSM fixed Wireless FCT of standard make	A2.7	9	No	8200.00 <i>(Rate banned for future LARs)</i>	73800	Consignee		communication
8	Supply, installation, testing and commissioning of IP based Centralized Announcement equipment at way station having facility to select any announcement local/ CA with zone selection facility as per Specification mentioned in chapter-VII (clause 7.6). (it includes the protocol converter and priority module	A2.8	1	No	290000.00 <i>(Rate banned for future LARs)</i>	290000	Consignee		Integrated Communication
	Power Supply System for Telecom.								
9	Supply of 25W Mobile Transceiver , complete with all accessories like antenna, cable, power supply etc.	A2.9	9	No.	57000.00 <i>(Rate banned for future LARs)</i>	513000	Consignee		communication
10	Supply of 12V 40 AH VRLA Battery of standard make for 25 W VHF set.	A2.10	9	No.	5200.00 <i>(Rate banned for future LARs)</i>	46800	Consignee		other
11	Supply of 48V, 50 Amps. SMPS Power Plant as per Specification mentioned in chapter-VII of Section VI.	A2.11	9	No.	149000.00 <i>(Rate banned for future LARs)</i>	1341000	RDSO	7.6.1	Electronics

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
12	Supply and charging of 48 Volt 200 AH LMLA battery bank as per Specification mentioned in chapter-VII of Section VI.	A2.12	9	Set	144500.00 <i>(Rate banned for future LARs)</i>	1300500	RDSO	7.2.11	other
13	Supply of 6KVA UPS battery backup (75AH x 16 nos battery) Make APC or Emersion or any standard as per Specification mentioned in chapter-VII of Section VI.	A2.13	9	No.	412000.00 <i>(Rate banned for future LARs)</i>	3708000	RITES	7.6.23	Electronics
14	Supply of 19" rack mountable Power distribution box- Power distribution box should be water proof comprising of minimum 01 no. Double pole 32 Amp or higher & 6 nos. 10/6 Amp or higher MCBs of reputed make.	A2.14	10	No.	12750.00 <i>(Rate banned for future LARs)</i>	127500	Consignee		other
	IP-MPLS, STM, CABLES and ACCESSORIES								
15	Supply of rack mounted 12 PORT LIU along with all accessories suitable for monomode fibre like LS/SC adaptor plate LC/SC connectors LC/SC pigtails as per Specification mentioned in chapter-VII of Section VI.	A2.15	60	No	17000.00 <i>(Rate banned for future LARs)</i>	1020000	Consignee	7.6.19	other
16	Supply of LC-to-LC Duplex OFC Patch Cord SM 5 meter length of reputed make compatible with the system as per Specification mentioned in chapter-VII of Section VI.	A2.16	500	No	2480.00 <i>(Rate banned for future LARs)</i>	1240000	Consignee	7.6.11	communication
17	Supply of Standard 19" Rack Mountable LER as per Specification mentioned in chapter-VII of Section VI.	A2.17	9	NO	1063000.00 <i>(Rate banned for future LARs)</i>	9567000	RDSO/RITES	7.6.27	communication
18	Supply of 4 port x 10G SFP module card suitable for the IP MPLS router for the LER.	A2.18	18	No	36000.00 <i>(Rate banned for future LARs)</i>	648000	RDSO/RITES		communication
19	Supply of 8 port x 1GbE (4 nos. of optical ports and 4 nos. of electrical ports in each module card) suitable for the IP-MPLS LER router.	A2.19	18	No	43000.00 <i>(Rate banned for future LARs)</i>	774000	RDSO/RITES		communication

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
20	Supply and installation of 16 port E1 Card along with Patch panel/Krone Module and wiring for LER Routers with all accessories etc.	A2.20	18	No	92000.00 <i>(Rate banned for future LARs)</i>	1656000	RDSO/RITES		communication
21	Supply of SFP + 10G (40 Km) SMF,1550nm for 40KM transmission working on single or dual fibre as per site requirement for LSR	A2.21	20	No	30000.00 <i>(Rate banned for future LARs)</i>	600000	RDSO/RITES		communication
22	Supply of 8X10 Gbps WDM interface module card or Channelized STM 1/4 card suitable for the above as per the site requirement	A2.22	9	No	110000.00 <i>(Rate banned for future LARs)</i>	990000	RDSO/RITES		communication
23	Supply of SFP (1310nm) 1.25 Gbps as per the site requirement	A2.23	45	No	13000.00 <i>(Rate banned for future LARs)</i>	585000	RDSO/RITES		communication
24	Supply of fiber management system as per Specification mentioned in chapter-VII (clause 7.6) for 48 fibers (2X24 Fiber) with 48 pig tails, connectors splicing tray etc as per Specification mentioned in chapter-VII of Section VI.	A2.24	42	No	83000.00 <i>(Rate banned for future LARs)</i>	3486000	RITES	7.6.20	other
25	Supply of Client System for NMS as per Specification mentioned in chapter-VII of Section VI.	A2.25	3	No	150000.00 <i>(Rate banned for future LARs)</i>	450000	Consignee	7.6.30	Electronics
26	Supply of 2MB programmable primary digital drop insert multiplexer as per Specification mentioned in chapter-VII of Section VI.	A2.26	9	No	197000.00 <i>(Rate banned for future LARs)</i>	1773000	RDSO	7.6.5	communication
27	Supply of Way station control equipment as per Specification mentioned in chapter-VII of Section VI.	A2.27	27	No	100000.00 <i>(Rate banned for future LARs)</i>	2700000	RDSO/RITES	7.6.2	communication
28	Supply & Fixing Cable Tray of size 150mm x 50mm x 2mm perforated GI cable tray including horizontal & vertical reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with GI suspenders etc as required.	A2.28	1500	Mtrs.	2025.00 <i>(Rate banned for future LARs)</i>	3037500	Consignee		Integrated other
29	Supply & fixing of 50 x 50 PVC Maxi trunking of ISI 14927	A2.29	1700	Mtr	335.00 <i>(Rate banned for future LARs)</i>	569500	Consignee		Integrated other

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
	UTS SYSTEM								
30	Supply of 24 Port manageable layer 2 switch as per Specification mentioned in chapter-VII of Section VI.	A2.30	18	Nos.	79000.00 <i>(Rate banned for future LARs)</i>	1422000	RDSO	7.6.13	communication
31	Supply and installation of 8 port manageable switch as per Specification mentioned in chapter-VII of Section VI.	A2.31	100	Nos.	15600.00 <i>(Rate banned for future LARs)</i>	1560000	RDSO	7.6.13	Integrated Communication
32	Supply and installation of 9U, 19 inch rack of standard reputed make, for pole mount with Fan 230VAC, AC distribution box 5 socket 5A: 01 No.	A2.32	20	No	13500.00 <i>(Rate banned for future LARs)</i>	270000			other
33	Supply Of UTP CAT -6 cable as per Specification mentioned in chapter-VII of Section VI (clause 7.6).	A2.33	3050	Mtrs.	38.00 <i>(Rate banned for future LARs)</i>	115900	Consignee	7.6.28	other
34	Supply of Dual face Plate with Dual I/O of Make AMPS / D-Link /Schneider /Molex.	A2.34	225	Nos.	975.00 <i>(Rate banned for future LARs)</i>	219375			other
	IP DSLAM System/GPON								
35	Supply & installation of GPON equipment with management terminal & all other accessories like splitter, patch cord, adaptor etc to make the system operational as per Specification mentioned in chapter-VII of Section VI.	A2.35	9	No	300000.00 <i>(Rate banned for future LARs)</i>	2700000	RITES	7.6.31	communication
36	Supply of GPON SFP-Type SFU as per Specification mentioned in chapter-VII of Section VI.	A2.36	13	No	17300.00 <i>(Rate banned for future LARs)</i>	224900	RITES	7.6.31	communication
37	Supply of wireless N GPON HGU with 4 port GbE Switch as per Specification mentioned in chapter-VII of Section VI.	A2.37	160	No	7400.00 <i>(Rate banned for future LARs)</i>	1184000	RITES	7.6.31	communication
38	Supply of single mode optical drop cable as per Specification mentioned in chapter-VII of Section VI.	A2.38	14,000	Mtr	8.00 <i>(Rate banned for future LARs)</i>	112000	RITES	7.6.31	communication

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
39	Supply of Connector (FTU) for drop cables including its crimping charge as per Specification mentioned in chapter-VII of Section VI.	A2.39	160	No	8.00 <i>(Rate banned for future LARs)</i>	1280	MITES	7.6.31	communicat ion
40	Supply of Remote Craft Terminal as per specification as per Specification mentioned in chapter-VII of Section VI.	A2.40	4	No	72500.00 <i>(Rate banned for future LARs)</i>	290000	consignee	7.6.32	Electronics
41	Supply of Single mode LC-SC optical patch cord as per specification.	A2.41	500	No	182.00 <i>(Rate banned for future LARs)</i>	91000	MITES	7.6.11	communicat ion
42	Supply of 24 port Rack mounted LIU along with all accessories & its standard installation as per Specification mentioned in chapter-VII of Section VI.	A2.42	20	No	18300.00 <i>(Rate banned for future LARs)</i>	366000	consignee	7.6.19	other
	Telephone Exchange								
43	Supply of VoIP Redundant Server with Server License, RAID Controller, Duplicated PSU as per Specification mentioned in chapter-VII of Section VI.	A2.43	2	Nos.	600000.00 <i>(Rate banned for future LARs)</i>	1200000	MITES	7.6.26	communicat ion
44	Supply, installation, Testing & Commissioning of 48 port FXS gateway (Analog gateway) as per Specification mentioned in chapter-VII of Section VI.	A2.44	8	Nos.	96000.00 <i>(Rate banned for future LARs)</i>	768000	MITES	7.6.26	Integrated Communica tion
45	Supply, installation, Testing & Commissioning of 02 port PRI gateway as per Specification mentioned in chapter-VII of Section VI.	A2.45	2	No	80000.00 <i>(Rate banned for future LARs)</i>	160000	MITES	7.6.26	Integrated Communica tion
46	Supply of Single Line Push Button Phone with CLI Panasonic / Beutel or any reputed make.	A2.46	300	NO	900.00 <i>(Rate banned for future LARs)</i>	270000	Consignee		other
47	Supply of Quartz Clock IS-12510 Q4 Category. Make: Ajanta or Similar	A2.47	60	No	990.00 <i>(Rate banned for future LARs)</i>	59400	Consignee		other
48	Supply and fixing of metal DP Box 200 pair with locking arrangements fitted with krone frame and Krone modules as per Specification mentioned in chapter-VII of Section VI.	A2.48	20	No	11000.00 <i>(Rate banned for future LARs)</i>	220000	Consignee	7.6.21	Integrated other

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
49	Supply and Installation of metal DP Box 100 pair with locking arrangements fitted with krone frame and Krone modules as per Specification mentioned in chapter-VII of Section VI.	A2.49	30	No	8800.00 <i>(Rate banned for future LARs)</i>	264000	Consignee	7.6.21	Integrated other
50	Supply and Installation of Non metal DP Box 50 pair with locking arrangements fitted with krone frame and Krone modules as per Specification mentioned in chapter-VII of Section VI.	A2.50	30	No	3800.00 <i>(Rate banned for future LARs)</i>	114000	Consignee	7.6.14	Integrated other
51	Supply & Installation of Nonmetal DP Box 20 pair with locking arrangement. Krone fitted Krone frame and Krone modules as per Specification mentioned in chapter-VII of Section VI.	A2.51	50	No	1600.00 <i>(Rate banned for future LARs)</i>	80000	Consignee	7.6.14	Integrated other
52	Supply of EPSON Multifunction Machines Mfm, On Site OEM Warranty 3 (EPSON L3256) or similar	A2.52	2	nos	31000.00 <i>(Rate banned for future LARs)</i>	62000	Consignee		Electronics
53	Supply of 5 Feet Local Aluminium Folding Ladder of 12 SWG	A2.53	20	Nos.	5500.00 <i>(Rate banned for future LARs)</i>	110000	Consignee		other
	Emergency Communication								
54	Supply of Emergency Socket Box as per Specification mentioned in chapter-VII of Section VI.	A2.54	100	No	6670.00 <i>(Rate banned for future LARs)</i>	667000	Consignee	7.6.4	other
55	Supply of Emergency six pin plug and Socket as per Specification mentioned in chapter-VII of Section VI.	A2.55	100	No	850.00 <i>(Rate banned for future LARs)</i>	85000	Consignee	7.6.3	other
56	Supply of V.F. Transformers 2T For Derivation And Termination Of Underground Telecom Cable Circuit as per Specification mentioned in chapter-VII of Section VI.	A2.56	100	No	900.00 <i>(Rate banned for future LARs)</i>	90000	Consignee	7.6.7	other

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
57	Supply, Fixing and Wiring of Cable Termination box for 26 conductors 0.5-0.9 sq mm with screw type terminals consisting of the following parts complete of Phoenix Contact make or of Wago/Connectwell make. Fixing to be done as per instructions of Site incharge/ Railway supervisor at site. shall be provided on the terminals where 6Quad/ jelly filled cable terminated.	A2.57	50	No	6000.00 <i>(Rate banned for future LARs)</i>	300000	consignee		Integrated other
	TOOLS								
58	Supply of Krone tools (Krone Make)	A2.58	18	Nos.	1250.00 <i>(Rate banned for future LARs)</i>	22500	Consignee		other
59	Supply of fully automated fusion splicing machine with all required accessories like 3 in 1 stripper, high precision cleaver, AC adapter with chord, Battery pack, Spare electrode, Software CD, Hard carrying case, TC interface cable, Cleaning brush, Electrode sharpener, User manual e as per TEC Gr No. G/OSM-01/03 April 22005	A2.59	2	Nos	392000.00 <i>(Rate banned for future LARs)</i>	784000	MITES		communication
60	Supply of Optical Time Domain Reflectometer all Accessories as per TEC/GR/TX/OTD 02/04 Apr 2010 With latest amendments.	A2.60	2	Nos	246540.00 <i>(Rate banned for future LARs)</i>	493080	Consignee		communication

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
61	Supply of maintenance tool kit as per TEC specification as per Annexure. (I) Digital Multimeter 4 1/2 digit with Liquid crystal display 1 No. of philips/Motwane Make.(II) Utility knife- 1 no. (III)cable sllitter-1 no. (IV)Tubing cutter for cable armour-1 no. (V) Bare fiber adaptor-1 No. (VI) Miller high precision stripper for fiber buffer -1 No. (VII) Cleaver Fujikura make or similar -1 No. (VIII) t1echnical splice joint set, 1 set consisting of 6 Nos. (IX)Ceramic scissor CSI - 1No. (X) FC/PC Adopter with ODB loss-10Nos. (XI) Optical fiber terminal block v groove - 2Nos. (XII)Earth resistance measuring instrument with all accessories suitable for measuring earth resistance in range of 0.1 Ohms to 10 Ohms.-01 Nos. (XIII)Megger-01 Nos. (XIV)Laser distance meter PRO-L100-02 Nos. (XV) Supply of digital Multimeter 3 3/4 digit liquid crystal display type (Philips or Motwani make). (xvi) Supply of LPG Blow Lamp - 02 Nos. and Kerosene Blow Lamp - 2 Nos. (For used in copper cable jointing) (xvii) Supply of Mini Hammer set with chisel set with covered holder.	A2.61	2	No	250000.00 <i>(Rate banned for future LARs)</i>	500000	Consignee		other
62	Supply of Optical Laser Torch as per Specification mentioned in chapter-VII of Section VI.	A2.62	3	No	12500.00 <i>(Rate banned for future LARs)</i>	37500	Consignee	7.6.34	communicat ion
63	Supply of handheld optical power meter as per Specification mentioned in chapter-VII of Section VI.	A2.63	3	No	38000.00 <i>(Rate banned for future LARs)</i>	114000	Consignee	7.6.33	communicat ion
	Cabling Work								
64	Supply of Armoured 6 core monomode optical cable as per Technical Specification	A2.64	30000	Mtr	80.00 <i>(Rate banned for future LARs)</i>	2400000	Consignee		ofc
65	Supply of 50 Pair x 0.5 mm Dia Polyethene Insulated sheathed Jelly Filled Telecom Cable with POLY-AL Moisture Barrier as per RDSO Specn. No. IRS: TC-41/97 with Amendment no. 2 or Latest	A2.65	10000	Mtr	405.00 <i>(Rate banned for future LARs)</i>	4050000	RDSO/RIT ES		other

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
66	Supply of 20 Pair x 0.5 mm Dia Polyethene Insulated Sheathed Jelly Filled Telecom Cable with POLY-AL Moisture Barrier as per RDSO Specn. No. IRS: TC-41/97 with Amendment no. 2 or Latest	A2.66	26000	Mtr	210.00 <i>(Rate banned for future LARs)</i>	5460000	RDSO/RITES		other
67	Supply of 10 Pair x 0.63 mm dia Polyethene Insulated sheathed Jelly Filled Telecom Cable with POLY-AL Moisture Barrier as per RDSO Specn. No. IRS: TC-41/97 with Amendment no. 2 or Latest	A2.67	10	Km	240000.00 <i>(Rate banned for future LARs)</i>	2400000	RDSO/RITES		other
68	Supply of 50 Pair, 0.5mm dia copper conductor PVC indoor telephone pair cable as per ITD specification no. S/W S-113C.	A2.68	3500	Mtr	230.00 <i>(Rate banned for future LARs)</i>	805000	RDSO/RITES		other
69	Supply of 20 Pair, 0.5mm dia copper conductor PVC indoor telephone pair cable as per ITD specification no. S/W S-113C.	A2.69	9000	Mtr.	92.00 <i>(Rate banned for future LARs)</i>	828000	RDSO/RITES		other
70	Supply of 10 Pair, 0.5mm dia copper conductor PVC indoor telephone pair cable as per ITD specification no. S/W S-113C.	A2.70	9000	Mtr	47.00 <i>(Rate banned for future LARs)</i>	423000	RDSO/RITES		other
71	Supply of straight join for 24-fiber as per Specification mentioned in chapter-VII of Section VI.	A2.71	32	NO	6000.00 <i>(Rate banned for future LARs)</i>	192000	Consignee	7.6.10	other
72	Supply of Thermo shrink Cable Jointing kit (Reinforced) TSF-2 type as per Specification mentioned in chapter-VII of Section VI.	A2.72	80	Nos.	5000.00 <i>(Rate banned for future LARs)</i>	400000	RDSO	7.6.6	other
73	Supply of Thermo-shrinkable jointing kit as per Specification mentioned in chapter-VII of Section VI (clause 7.6).of suitable size of derivation joint for 2 T Joint RTSF (75/15mm) suiting to 06 quad jelly filled underground cable and 10 pair PIJF derivation cable with or without transformer.	A2.73	100	No	5000.00 <i>(Rate banned for future LARs)</i>	500000	Consignee	7.6.6	other

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
74	Supply of PVC rigid pipe 25 mm diA1. With ISI mark & reputed make.	A2.74	14000	Mtr	55.00 <i>(Rate banned for future LARs)</i>	770000	Consignee		other
75	Supply of PVC trunking (Casing / Capping) 38mm size in Ivory / White colour, make / brand : Precision, Prestoplast OR Similar	A2.75	1600	Mtr	45.00 <i>(Rate banned for future LARs)</i>	72000	Consignee		other
76	Supply of PVC Caping casing 20mm size in Ivory / white of make precision /prestoplast/Modi. Or similar	A2.76	2800	Mtr	30.00 <i>(Rate banned for future LARs)</i>	84000	Consignee		other
77	Tejas-TJ1400R2-Packet Optical TRANSPORT SYSTEM: 7 SLOT BASE CHASSIS(ET) with R2 BACKPLANE and AIRFILTER with DC PSU with 12V O/P 48V I/P 2Nos, TJ1400 TJ1400-Fan Tray unit , Basic Installation Kit for TJ1400R2 , TJ1400-Enhanced Installation Kit, TJ1400-Software License - STM4/16 , TJ1400-Cross connect Module-1x STM-16 Agg + 2x STM-1 TJ1400-L2 Ethernet Fabric card with 2 X GigE + 4 XFE,TJ1400-Mechanical Assy-XCC-Trib Filler 2 No, 2 No SFP-L16.2-OC48/STM16, TJ1400-ST63E1-Small Form factor tributary with 63E1/DS3	A2.77	6	No	300000.00 <i>(Rate banned for future LARs)</i>	1800000	Consignee		communication
78	Supply of Battery 48V, 300 AH VRLA ty pe fully charged as per Specification IRS:S-93/96(A) Amd. 1	A2.78	6	Set	170000.00 <i>(Rate banned for future LARs)</i>	1020000	RDSO		other
79	Supply of Charger 230V AC/ 48V DC 150 Amp UC with 50 Amp (2+1), Single Phase SMPS based battery chargers with two (2) battery paths for VRLA Maintenance free battery along with Lightening protection unit (LPU) as per Specification mentioned in chapter-VII of Section VI.	A2.79	6	No	200000.00 <i>(Rate banned for future LARs)</i>	1200000	RDSO	7.6.1	Electronics
	Schedule B2 (Telecom Execution Items)								
	Train Indicator Boards And PA System								
80	Installation, wiring, commissioning of power supply equipments i.e. battery chargers and batteries at each station including AC/DC distribution and protection arrangement. as per technical specifications.	B2.80	9	job	3500.00	31500			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
81	Installation of maintenance free earth electrode as per specifications mentioned in chapter-VII.	B2.81	21	Nos.	7300.00	153300			Labour
82	Installation, Wiring, Testing & commissioning of way station equipment on the rack per station wise. (this includes supply of all materials for execution of work except way side equipment)	B2.82	27	No	8000.00	216000			Labour
83	Jointing of 50/20/10 pair PIJF cable	B2.83	50	No	600.00	30000			Labour
84	Laying of Cable Switch board (10 pair/ 20 pair/50 pair) Cables in 1" PVC conduit/case capping and clamping on the wall/ Wall/Roof tops/ Shelters with suitable clamping and hose to be provided where ever bends/curves and other accessories to be supplied by the contractor).	B2.84	21300	Mtr	32.00	681600			Labour
	IP-MPLS, STM, CABLES and ACCESSORIES								
85	Integration, Testing and Final commissioning of equipments at each station for all the equipments conforming with the approved system design including end to end testing for realization of optical fibre system. This also includes supply of all as made documents for the entire section (six copies) plus technical, maintenance and installation manuals for IPMPLS, NMS, Charger and Power Supply unit with OEM as per Specification mentioned in chapter-VII.	B2.85	9	Per Stn	150000.00	1350000			Labour
86	Training of Railway staff and officer at the factory premises/ Railway site of manufacturer of IP-MPLS equipment (or) at a reputed training institution as approved by railway executive in charge.	B2.86	10	Man-Week	15000.00	150000			Labour
87	Installation and Commissioning of Battery set 48V, 300AH	B2.87	6	Set	3600.00	21600			Labour
88	Installation and Commissioning of Charger 230V AC/ 48V DC 150 Amp UC with 50 Amp (2+1)	B2.88	6	No	7000.00	42000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
	UTS SYSTEM								
89	Installation, Wiring, Testing & commissioning of entire network and equipments for UTS system.	B2.89	9	Stn	8000.00	72000			Labour
	Telephone Exchange								
90	Installation, Testing & Commissioning of VoIP Server and other equipments as per specification.	B2.90	2	Nos.	22000.00	44000			Labour
	Emergency Communication								
91	Survey of cable route, preparation of cable route plan (this should be submitted before starting the trenching work) and Preparation of as built final cable route plan (For OFC, 6Q, PIJF as well as other telecom cables) on Auto Cad for the section .This include supply of necessary documents on tracing paper along with five prints of cable route plan, QUAD/PIJF Cable jointing and Splicing schedule, EC Socket Location Etc. Telecom Cable Hut wiring diagram etc. Contractor shall also supply the Auto Cad documents in CD.	B2.91	9	Per Stn	30000.00	270000			Labour
92	Fabrication, Fixing, Grouting and cable termination of EC socket of EC socket assembly complete with termination of 6 quad & jelly filled cable with contactor own material.	B2.92	100	No	3800.00	380000			Labour
93	Supply of paint & painting of telephone mark with indicative arrow indication the direction of the nearest emergency socket on the RCC route/joint marker.	B2.93	1200	No	100.00	120000			Labour
94	Laying of 6 core monomode optical cable through 25 mm dia PVC pipe/Duct	B2.94	30000	Mtr	23.00	690000			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
95	Installation of Thermo-shrinkable jointing kits for making (a) straight through joints without transformer for 6 -quad Jelly filled cable, (b) Derivation joint with transformer for 6-Quad Jelly filled cable, and (c) Straight Through joint without transformer for 10 Pr/20Pr. PIJF cables	B2.95	100	No	1500.00	150000			Labour
96	Painting of EC socket assembly by applying one coat of red oxide as base colour and painting the assembly as per zebra painting in white and black colour. The width of each strips shall be 100mm.	B2.96	100	No	900.00	90000			Labour
97	Installation of 2T Derivation joint for jointing of 6 Quad jelly filled cable-using Thermo-shrink jointing kit and construction of brick chamber \Location Box for protection of joints with all contractors' materials. This includes the taping of nominated quad at a specified location and directives of the MRVC Engineer using 2T transformer joint assembly. The other end of the transformer should be connected to 10 pair PDF jelly filled U/G telephone cable, which is already laid in the trench for this jointing purpose. This jelly filled cable to be taken out of the joint using branch off clip. While jointing, the necessary precautions to be taken against the moisture etc. The cable ends to be taken out and cleaned before jointing. All the materials required for the work are to be arranged by the contractor himself at his own cost except Thermo-shrink jointing kit and 2-T transformer joint assembly, which is already covered in supply portion of the schedules. After jointing the cable, through test should be performed such as installation test, etc. If any defect or any damage observed during jointing, the contractor should redo the joint free of cost.	B2.97	100	No	1500.00	150000			Labour
98	Splicing of optic fiber cable and making the splice joint with contractor's own splicing machine and tools.	B2.98	62	No.	7200.00	446400			Labour

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
99	Blowing and drawing of OFC through laid HDPE duct already provided in the trench as per approved cable route plan, taking due care while transporting and sealing both the ends after laying.	B2.99	90	km	15000.00	1350000			Labour
100	Laying of HDPE duct in trenches / GI pipe /RCC pipe including jointing and leveling using couplers and sealing the section and etc and as per site requirement	B2.100	120	Km	6900.00	828000			Labour
101	Laying of jelly filled U/G / 6 Quad/Telecom cables, in trench, open ground, under asphalted / cemented surface / through pipes / through walls / through railway track / FOB / subway as per technical specification	B2.101	46	Km	26000.00	1196000			Labour
102	Laying of STP /CAT 6/ /Drop fiber/RG- 11 / three core PVC insulated flexible power cable through conduit pipe/cable tray on the wall/roof	B2.102	17350	Mtr	20.00	347000			Labour
103	End to end testing of fiber of the OFC laid cable between the stations to Station, Station to cable hut	B2.103	21	Per Stn	14000.00	294000			Labour
104	Total Amount of A1+B1+A2+B2	C.104				1524002785.00			
	Safety, Health and Environmental								
105	Payment for ensuring implementation and monitoring of all provisions in Safety, Health and Environmental Manual (SHE Manual) of MRVC during execution of works through entire contract period including deployment of required SHE organization as mentioned in SHE manual with required qualification, arranging training to all workers and staff engaged for work, regular health check-up of labours, arranging SHE meetings, SHE Inspection, SHE audit, SHE communication i.e. posters/ signages/ VIDEO/ Audio, SHE housekeeping, Safety training, provision of protective wears, labour welfare measures, Environmental management, traffic management of vehicles for construction activities, etc. complete as detailed in Safety, Health and Environment manual of MRVC. Notes TO ITEM 105: -	C.105	1524002785.00	percen tage	3.00% of C.104	45720083.55		Chapter-VI, section-6	

SL. No	Description	Item Code	Total Quantity	Unit	Rate (Excluding GST)	Amount (Excluding GST)	Inspection Authority	Specification clause Section VI	PVC Categorization
	1.Rate for this item is 3% of total cost of work in this Schedule A-1,A-2,B-1&B-2. & billed in each interim payment. 2.Separate SHE organization/team shall be deployed. 3.Penalty will be imposed for failure or violations in implementation of SHE manual provisions as mentioned in chapter VI of SECTION VI of SHE Manual. 4.Persistent failure or violation of SHE manual provision may attract termination of contract. 5.Payment will be released with each interim payment as per percentage quoted by the contractor for this item after recovering penalties imposed for violation of provision of manual, if any. 6.During non-progress of work no payment will be made under this item. 7.The works are funded by AIIB and as such all provisions of AIIB regulations and operational guidelines regarding Safety, Health and Environment are applicable and the above item of implementation/compliance includes the same.								
	Total Amount INR (Excluding GST)					156,97,22,868.55			
	GST Amount @18%					28,25,50,116.34			
	Total Amount in INR (Inclusive of GST)					185,22,72,984.89			

NOTE: - The rates for Schedule A-1 item no A1.22& A1.27 and for schedule A2 all 79 items rate shall not be taken into for future references for estimation and tendering as LARs. Any positive variation in banned items A1.22, A1.27 and All A2(A2.1 to A2.79, All telecom supply items) shall be with prior approval of accepting authority.

Signature: _____

Name: Dinesh Kumar Vashishtha

Title/position: Chief Signal and Telecommunication Engineer (CSTE)

Mumbai Railway Vikas Corporation Ltd.