

SCHEDULE-B: CONVERSION OF OVERHEAD TO UNDERGROUND

“Site survey including underground utility verification using (GPR & EPL), Engineering, Procurement, Supply, Loading, Transportation, Unloading, Insurance, Delivery at Site, Handling, Storage, Installation, Testing, Commissioning Including Documentation of All Items/Material required to complete works for Turnkey Based Contract For Conversion of Existing LT Line Network Including Consumer Service Lines Into Under Ground Cable Network using FSP/MSP & Ring Main System at Tarsali Sub Division of Lalbaugh Division Baroda City under MGCVCL with GIS Mapping / Geo Urja Mapping (Developed by GUVNL) and Asset Tagging under Gujarat Wire Free City Mission ”.

Sr No	Particulars of Item	Unit	SUPPLY PORTION			ERECTION PORTION		
			Quantity	Unit Rate in Rs	Total in Rs	Quantity	Unit Rate in Rs	Total in Rs
1	LT NETWORK(LT XLPE Cable Supply of XLPE (IS:7098) (I) -88 ISI marked Armoured cable multistrand aluminium conductor for 1.1 KV of following Size of Cable)							
A	1C X 400 Sqmm LT Cable (TC TO FSP)	Meter	1050	851.7	894285			0
B	1C X 300 Sqmm LT Cable (TC TO FSP)	Meter	29850	670.95	20027857.5			0
C	3.5 CX 400 mm2 Aluminium	Meter	0	2097	0			0
D	3.5 CX 300 mm2 Aluminium	Meter	585	1886.85	1103807.25			0
E	3.5 CX 240 mm2 Aluminium	Meter	100891	1524.6	153818418.6			0
F	3.5 C X 185 mm2 Aluminium	Meter	2050	1206.45	2473222.5			0
G	3.5 C X 150 mm2 Aluminium	Meter	1870	978.6	1829982			0
H	3.5 C X 120 mm2 Aluminium	Meter	192493	827.4	159268708.2			0
I	3.5 C X 95 mm2 Aluminium	Meter	280	641.55	179634			0
J	3.5 C X 70 mm2 Aluminium	Meter	650	478.8	311220			0
K	3.5 C X 50 mm2 Aluminium	Meter	1050	367.5	385875			0
L	4 C X 25 mm2 Aluminium	Meter	9310	228.9	2131059			0
M	4 C X 16 mm2 Aluminium	Meter	130017	161.7	21023748.9			0
N	4 C X 10 mm2 Aluminium	Meter	1163890	124.95	145428055.5			0
O	4 C X 6 mm2 Aluminium	Meter	0	99.75	0			0
P	2 Core, 4 Sq.mm	Meter		69	0			0

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2	LT Cable Termination: Supply of Cable Termination on LT Pole, FSP, LT Distribution Trasformer Box of pole mounted trasformer of LT cable grade as pecified below. LT CABLE including cutting,stripping of cable,insulations,providing compression type terminals,suitable cable glands,crimping lugs with necessary connections.Work carried out up to consumer premises with meter shifting, and provide load side cable as per site conditions and as per EIC. All the accessories in the scope of biddier.							
A	1C X 400 Sqmm LT Cable (TC TO FSP)	Nos	105	1245	130725	105	45	4725
B	1C X 300 Sqmm LT Cable (TC TO FSP)	Nos	2985	1245	3716325	2985	45	134325
C	3.5 CX 400 mm2 Aluminium (FSP TO MSP)	Nos	0	1245	0	0	45	0
D	3.5 CX 300 mm2 Aluminium (FSP TO MSP)	Nos	59	1245	73455	59	45	2655
E	3.5 CX 240 mm2 Aluminium (FSP TO MSP)	Nos	6747	1245	8400015	6747	45	303615
F	3.5 C X 185 mm2 Aluminium (FSP TO MSP)	Nos	137	940	128780	137	45	6165
G	3.5 C X 150 mm2 Aluminium	Nos	125	940	117500	125	45	5625
H	3.5 C X 120 mm2 Aluminium	Nos	40584	889	36079176	40584	45	1826280
I	3.5 C X 95 mm2 Aluminium	Nos	28	889	24892	28	45	1260
J	3.5 C X 70 mm2 Aluminium	Nos	120	889	106680	120	45	5400
K	3.5 C X 50 mm2 Aluminium	Nos	360	889	320040	360	45	16200
L	4 C X 25 mm2 Aluminium	Nos	3192	804	2566368	3192	45	143640
M	4 C X 16 mm2 Aluminium	Nos	5061	788	3988068	5061	25	126525
N	4 C X 10 mm2 Aluminium	Nos	28464	788	22429632	28464	25	711600
O	4 C X 6 mm2 Aluminium	Nos	0	679	0	0	25	0
P	2 Core, 4 Sq.mm	Nos	0	679	0	0	25	0

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3	<u>FSP (FUSE SECTION PILLER): 4 Way</u> Supplying and erecting 120x100x40 cms. Fuse section pillar fabricated from 4 mm Thermosetting Plastic (moulded in a single piece) i.e Glass Reinforced Polyester sheet Moulding Compound (SMC) or metal body(As per Specification and drawings) with cable clamps to be burried in ground to have appropriate erection on look unifrom unit erected with cement concrete foundation and <u>45 cms high brick masonry internal supported</u> on both side with intrnal and outer side locking arrangement with lock and keys in duplicate .Incoming switchgear SFU of 800A TPN and outgoing HRC SMC fuse base and knife type links 32 Amp to 630 Amp capacity fuse base fitted on 630 Amp current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incomming up to 1 core 300/400 sq mm 4 nos and outgoing 3 nos. 31/2 core cables of suitable sizes. (As per Technical specification of FSP) (Erection shall be carried out as per approved drawing and site condition)							
A	800 Amp	Nos	14	101860	1426040	14	3233	45262
B	630 Amp	Nos	198	76566	15160068	198	3233	640134
C	400 Amp	Nos	199	67213	13375387	199	3233	643367
4	<u>FSP (FUSE SECTION PILLER): 6 Way</u> Supplying and erecting 120x100x40 cms.Fuse section pillar fabricated from 4 mm Thermosetting Plastic (moulded in a single piece) i.e Glass Reinforced Polyester sheet Moulding Compound (SMC) or metal body(As per Specification and drawings) with cable clamps to be burried in ground to have appropriate erection on look unifrom unit erected with cement concrete foundation and 45 cms high brick masonry internal supported on both side with intrnal and outer side locking arrangement with lock and keys in duplicate .Incoming switchgear SFU of Suitable TPN and outgoing HRC SMC fuse base and knife type links 32 Amp to 630 Amp capacity fuse base fitted on 630 Amp current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incomming 1 core 300/400 sq mm 4 nos and outgoing 5 nos. 31/2 core cables of suitable sizes. (As per Technical specification of FSP) (Erection shall be carried out as per approved drawing and site condition)(SFU Amp Capcity is as under)							
A	800 Amp	Nos.	0	124269	0	0	3233	0
B	630 Amp	Nos.	2	114850	229700	2	3233	6466
C	400 Amp	Nos.	1	100820	100820	1	3233	3233
5	<u>MSP(Mini Section Piller) : 4 Way</u> Supplying and erecting 120x100x40 cms. Mini section pillar fabricated from 4 mm thick Thermosetting Plastic(moulded in a single piece) i.e. Glass Reinforced Polyester Sheet Moulding Compound (SMC) or Metal Body Type Enclouser(As per Specification) with cable clamps to be burried in ground to have appropriate erection on look uniform unit erected with cement concrete foundation and 45 cms high brick masonry internal supported on both side with internal and outer side locking arrangement with lock and keys in duplicate. Incoming HRC SMC fuse base and kinfe type links 32 Amp to 250 Amp. capacity, fuse base fitted on 250 Amp. current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incoming up to 3.5 Core 300 Sq.mm 1 Nos. and outgoing 3 nos. 3.5 core cables of suitable sizes.(As per Technical specification of MSP)							
A	400 Amp	Nos.	2	28411	56822	2	3233	6466

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B	250 Amp	Nos.	1901	13225	25140725	1901	3233	6145933
C	125 Amp	Nos.	762	10925	8324850	762	3233	2463546
6	<u>MSP(Mini Section Pillar) : 6 Way</u> Supplying and erecting 120x100x40 cms. Mini section pillar fabricated from 4 mm thick Thermosetting Plastic(moulded in a single piece) i.e. Glass Reinforced Polyester Sheet Moulding Compound (SMC) or Metal Body Type Encloser(As per Specification) with cable clamps to be buried in ground to have appropriate erection on look uniform unit erected with cement concrete foundation and 45 cms high brick masonry internal supported on both side with internal and outer side locking arrangement with lock and keys in duplicate. Incoming HRC SMC fuse base and kinfe type links 32 Amp to 250 Amp. capacity, fuse base fitted on 250 Amp. current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incoming up to 3.5 Core 300 Sq.mm 1 Nos. and outgoing 5 nos. 3.5 core cables of suitable sizes.(As per Technical specification of MSP)							
A	400 Amp	Nos.	5	42616	213080	5	3233	16165
B	250 Amp	Nos.	10	19838	198380	10	3233	32330
C	125 Amp	Nos	425	16388	6964900	425	3233	1374025
7	<u>MSP(Mini Section Pillar) : 8 Way</u> Supplying and erecting 120x100x40 cms. Mini section pillar fabricated from 4 mm thick Thermosetting Plastic(moulded in a single piece) i.e. Glass Reinforced Polyester Sheet Moulding Compound (SMC) with cable clamps to be buried in ground to have appropriate erection on look uniform unit erected with cement concrete foundation and 45 cms high brick masonry internal supported on both side with internal and outer side locking arrangement with lock and keys in duplicate. Incoming HRC SMC fuse base and kinfe type links 32 Amp to 250 Amp. capacity, fuse base fitted on 250 Amp. current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incoming up to 3.5 Core 300 Sq.mm 1 Nos. and outgoing 7 nos. 3.5 core cables of suitable sizes.(As per Technical specification of MSP)							
A	400 Amp	Nos	0	18400	0	0	3233	0
B	250 Amp	Nos	0	14950	0	0	3233	0
C	125 Amp	Nos	0	12650	0	0	3233	0
8	SFU							
A	Supply, Instalation, Testing, Commissioning switch fuse unit made by SMC Box and capacity of 125 A, Mostaly used in flat/Socity area. Installation worked caried out with instruction of EIC. And as per the drawing approved by CA- Minimum 16 Nos. of CKT	Nos	2545	12087	30761415	2545	1150	2926750

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B	Supply, Instalation, Testing, Commissioning switch fuse unit made by SMC box and capacity of 200 A, Mostaly used in flat/Society area. Installation worked caried out with instruction of EIC. And as per the drawing approved by CA - Minimum 16 Nos. Of Circuit	Nos	500	18400	9200000	500	1150	575000
C	Supply, Instalation, Testing, Commissioning switch fuse unit made by SMC box and capacity of 400 A, Mostaly used in flat area. Installation worked caried out with instruction of EIC. And as per the drawing approved by CA- Minimum 16 Nos. Of Circuit	Nos	500	20700	10350000	500	1323	661500
9	EARTHING							
A	EARTHING ELECTRODS: Supplying & erecting of maintained free earthing system comprising of Minimum 17 mm dia 3 mtr Long Earthing Electrode of low carbon steel electrode with 250 microns copper coating + carbon based conductive concrete back fill safe Compound(resistivity of less than 0.10 ohm mtr) & copper clamp. (FSP)	Nos	828	6500	5382000	828	1000	828000
B	EARTHING ELECTRODS: Supplying & erecting of maintained free earthing system comprising of Minimum 17 mm dia 2 mtr Long Earthing Electrode of low carbon steel electrode with 250 microns copper coating + carbon based conductive concrete back fill safe compound(resistivity of less than 0.10 ohm mtr) & copper clamp.(MSP+SFU)	Nos	13300	5500	73150000	13300	1000	13300000
C	EARTHING STRIP: Supply installation & commissioning of earthing conductor 25 x 3mm G.I. strip for pole mounted transformer and up to FSP,RMU as well as connection to be made to the earth pit. Rates inclusive of hot dipped hard wares.	Mtr	141280	91	12856480	141280	52	7346560
10	PRE BONDING TAP: For laying on trench after laying cable on trench to provide indication cable route below land surface in underground trench to protect cable for mechanical injuries.LDPE Material having 250 mm Width (Yellow Color is preferable)	Mtr	801543	14	11221602	801543	7	5610801
11	CABLE TAG: The PVC tag for identification of feeder/PSS/FSP/RMU name of HT/LT cables shall be provided at every 10 MTR LT Feeder : PSS/Transformer/FSP/MSP/SFU	Nos	48481	20	969620	48481	7	339367
12	CABLE ROUTE MARKER: Providing and erecting RCC cable route marker as per drawing duly marked with "DANGER" mark, "discom POWER CABLE" and arrow of route of cable.	Nos	3205	300	961500	3205	100	320500
13	CABLE TERMINAL FERRULS: The PVC Cable terminal ferruls for identification of phase sequence and feeder/PSS/FSP name of HT/LT cables shall be provided at every termination of all cables stating detail as under. HT Cable :Feeder name/Phase(R/Y/B) LT Cable : TC/FSP name/Phase(R/Y/B/N)	Nos	48481	24	1163544	48481	8	387848

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14	LAYING WORK							
A	Supply of HDPE/DWC pipe confirming to IS 4984:1955 having diameter 110/100mm or appropriate pipe size of cable and minimum thickness 5mm at a minimum depth 1200mm below the road surface by PUSH through method by drilling the road with HDD machine/manually without breaking the road surface and with laying of any size of LT XLPE insulated aluminium armoured cable through the duct as per the instruction of EIC and specifications. (For LT XLPE Cable above 3.5C/4C* 185 SQMM)	Mtr	51763	361	18686443	51763	495	25622685
B	Supply & Laying of HDPE/DWC pipe confirming to IS 4984:1955 having diameter 90mm or appropriate pipe size of cable with laying of various size of LT XLPE (3.5 Core 95 sq. mm to 3.5 core 150 Sq.mm) PUSH through method by drilling the road with HDD machine/manually without breaking the road surface and with laying of any size of LT XLPE insulated aluminium armoured cable through the duct as per the instruction of EIC and specifications (Single/Double/Bunched)	Mtr	97321.5	224	21800016	97321.5	495	48174142.5
C	Supply & Laying of HDPE/DWC pipe confirming to IS 4984:1955 having diameter 50/63 mm with laying of various size of LT XLPE (2C 45Qmm to and upto 3.5/4 core 70 Sq.mm) PUSH through method by drilling the road with HDD machine/manually without breaking the road surface and with laying of any size of LT XLPE insulated aluminium armoured cable through the duct as per the instruction of EIC and specifications insulated Aluminium armoured Cable (Single/Double/Bunched)	Mtr	652458.5	76	49586846	652458.5	495	322966957.5
D	Laying (including installation, testing and commissioning) of various size of LT XLPE insulated Aluminium armoured Cable in ground 1200mm deep, 300mm wide trench, providing sand cushioning below (75mm thick layer of sand) and above (75mm thick layer of sand) of the cable and covering it with RCC half round hum pipe (150mm inner dia with thickness of 30mm, 1meter in legnth) before refilling pre warning tap/bonding tap should provide below 700mm from ground level and back filling the same to make the ground level as original. As per specification and drawing of MGVCCL. (RCC half round hum pipe should be provided throughout on cable without gap).	Mtr	0	0	0	801543	531.3	425859795.9
15	Providing, supplying, laying, fixing and commissioning of Green color Hose Pipe for LT armored service cable protection/saddling work in consumer premises where digging is not possible up to energy meter location, including all accessories such as saddles, clamps, clips, bends, fastening materials etc. complete in all respect as per technical specification.(Saddleing with wall and etc, for this work GI type saddle and nail shall be used)							
A	Hose Pipe of Size 40mm/32mm	Mtr	48300	118.64	5730508.475	48300	17.80	859576.2712
B	Hose Pipe of Size 77mm/63mm	Mtr	6900	364.41	2514406.78	6900	17.80	122796.6102
C	Hose Pipe of Size 90mm/75mm	Mtr	6900	406.78	2806779.661	6900	17.80	122796.6102
D	Green color Hose Pipe of Size 120mm/103.5 mm	Mtr	6900	805.08	5555084.746	6900	17.80	122796.6102

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16	DRAWING: Preparing complete drawing of entire network as well as individual feeder map showing joints also in AutoCad and providing the same to MGVCL in AutoCad copy as well as pdf copy and hard copy in six sets. The drawing should be geographical indicating all directions	Per KM			0	145	1000	145000
17	Paint Pointed Letter 2 inchsize (Marking on FSP,MSP,SFU Etc In any place). As per directive of Engineer Incharge) with supply of color	Ea			0	105960	5.175	548343
18	DISMENTAL							
A	Dismantalling PSC Pole 8 Mtr with cross arm,insulators,hardwares etc.and return it to MGVCL store.While dismantalling utmost care shall be taken so that the material so that the same can be reused by MGVCL.	Nos				1790	562	1005980
B	Dismantalling PSC 10 Mtr/Rail/RSJ pole with cross arm,insulators,hardwares etc.and return it to MGVCL store.While dismantalling utmost care shall be taken so that the material so that the same can be reused by MGVCL.	Nos				3490	1131	3947190
C	Dismantalling of existing HT/LT line of 34SQMM to 55SQMM conductor and after making coil and stacking the same at MGVCL store.Conductor has to dismantal from shackle to shackle pole with minimum nos of cut piece as per instruction of EIC	Per Cond/KM				50	715	35750
D	Dismant of of single phase AB Cable(3.5 core) including fittings of All Accessories and stacking the same at MGVCL store.Cable has to dismantal from shackle to shackle pole with minimum nos of cut piece as per instruction of EIC	KM				96	8089	776544
E	Dismant of of single phase AB Cable(LT 1P2W) including fittings of All Accessories and stacking the same at MGVCL store.Cable has to dismantal from shackle to shackle pole with minimum nos of cut piece as per instruction of EIC	KM				0	3235	0
19	COMPREHENSIVE MAINTENANCE WORK FOR LT UNDERGROUND NETWORK AFTER SUCCESSFUL COMPLETION OF PROJECT, For Five years after completion of project,For further detail bidder advice to Read the chapter in STANDARD BIDDING DOCUMENT							
A	Locating Underground Cable Fault of Underground Cable including digging,pin pointing with cable route tracker by using cable fault location equipment like cable fault Van/Vehicle with supportive meters and accessories & doing high pressure testing of cable for checking healthiness of cable with suitable equipment after jointing of the faulty cable (excluding jointing kit) backfilling, and submission of fault location with report of showing distance from main source approx.. Including required manpower.	Per Job				2500	6780	16950000
B	Supply of unskilled/skilled man power to perform day to day activity of maintenance work of LT Under ground Network and all Associated activity etc.These man power deployment meant for activities other than above 19 (A)	MND				16425	650	10676250
	Amount in Rupees (without GST)		920844547			904897872		

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	GST @ 18%		165752018			162881617			
	TOTAL Amount (WITH GST)		1086596566			1067779489			
	GRAND TOTAL (WITH GST)						2154376055		
	TOTAL COST IN CR						215.44 Crore		