



## SCHEDULE OF RATES



8" STEEL PIPELINE LAYING				
Kanu Bhai Rabari CNG connectivity				
Sr. No.	Description of Items	Unit	Qty	Total Amount
<b>1</b>	<b>Mobilization and Demobilization</b>			
1.1	Mobilization and Demobilization of Equipments and Resources at Site for Palaj Gandhinagar and Accurate, Chandkheda CNG	Nos.	1.00	
<b>1</b>	<b>PIPE LINE LAYING MAINLINE (CARBON STEEL PIPES)</b>			
	"Receiving and taking Over" as defined in the specifications, handling loading transportation and unloading of Owner supplied 3 Layer PE coated linepipes from Owner's designated stock-yard to contractor's Stock yard/ workshop/ work - site including preliminary activities, preparation of drawing, wherever required for crossing etc. including handling, stacking, stringing on the pipeline Right - of - Use/ pipeline route alignment, carrying out inspection of Company supplied materials including line pipes at the time of taking over, laying / installation of coated line pipes, associated fittings, IJ and accessories, including execution of all works, taking over handling, including loading and unloading, transportation of Owner supplied materials other Line pipe from Owner's designated place (s) of issue to work site, arrangement of all additional lands required for Contractor's storage, fabrication, access for construction, Procurement and supply of all materials (including Owner supplied materials), Consumables, equipment, labour and other inputs, carrying out all temporary, ancillary, auxiliary works, ready for commissioning of pipeline as per drawings, specifications, other provisions of Contract document and instructions of Engineer - in - charge, including but not limited to carrying out the following works:			
	Surveying of detours for the detours required at the time of construction including marking the same in topographical sheet, preparation of As Built drawings showing survey details, and submit same to Owner for review.			
	Staking and installation of construction markers, clearing, fencing, grubbing, grading of right of use (ROU), cutting of trees, full filling all the requirements of various statutory/environment authorities to the entire satisfaction of concerned authorities, grading of work areas. Shifting of all obstruction within the ROU/ Pipe line route alignment viz. electrical lines/ poles, telephone line / poles, co-ordination with concerned authorities.			
	Trenching to all depths by excavation in all types of soils including soft/ hard rock, chiselling or otherwise cutting different types of pavement, footpath, roads etc. as required and storing excavated soil reusable materials at designated area as directed by Engineer in charge and to a width to accommodate the pipeline. [ The minimum depth from the top of pipeline shall be as per approved & attached drawing]. Dewatering of trenches if required as per site condition before lowering.			
	Procurement and installation of all Under ground / Above ground (for Hook-Up, Isolation valve & Tap-Off) fittings, Reducers, Tees, branch and bend of all types (LR Bends) on the pipeline. Owner will supply pipe (2", 4" & 6"NB), Valves and Insulation Joint ONLY.			
	Carrying out repairs of pipe defects/ replacement in case of irreparable defects and repairs of defects of pipe coating not attributable to Owner including defects/ damages occurring during transportation/ handling.			
	Checking, cleaning, aligning, bending, cutting and beveling (as required) of pipes for welding and field adjustments including pipe fittings, welding, carrying out non - destructive testing of welds as required including <b>100% radiography with X-ray / Gamma ray</b> and providing all requisite equipment, labour, supervision materials, films, consumables, all facilities and personnel to process, develop, examine and interpret radiographs and other tests as required, carrying out repairs of weld joints found defective by Engineer-in-charge, carrying out re-radiography and other tests as required on repaired joints.			
	Carrying out installation of carrier pipe at all crossings like roads/ nallas at designated depths, by open cut / jacking/ boring after pre hydrotest of the section as defined in specification. (except at cased crossing of crossing carried out by HDD method).			
	Carrying out installation of carrier pipe in the casing pipe at cased crossing (excluding installation of casing pipes which is covered separately).			
	Coating of field weld joints, long radius elbows, buried fittings and valves etc. including supply of coating materials etc.			
	Counting the numbers and type of trees out in presence of DFO/ concerned and keeping record thereof, stacking and handling over of all cut trees.			
	Installation /lowering the pipeline in trench to required depth, placement of PE/PVC warning mat over the pipe line along the complete route, padding around pipeline with suitable approved soil including supply of padding material, PE/PVC warning mat (1.0mm thick 300mm wide ) backfilling with available / borrowed earth, approved excavated material and /or other suitable soil by crowning.			
	Repair of holiday in coating-Supply of all coating repair materials as per requirements of specification to be compatible with line pipe coating material, supply of all consumables, utilities equipments and all manpower required, pipe cleaning and surface preparation, repairing of coating defect (resulting in holiday) and testing including all handling, transportation etc, for the line pipes, performing all works necessary for the completion of the works strictly in accordance with relevant specification and instruction of Engineer-in-Charge.			
	Crossing the all-foreign pipeline with necessary concrete/PVC protection including co-ordination with all agencies and obtaining NOC.			

	Including Crossing of pipeline with the trench less method wherever required with the approval/permission of authority. (No separate payment shall be made for trench less method)				
	Supply and installation of slope breakers, bank protection wherever required and as directed by Engineer - in - Charge.				
	Carrying out air cleaning, gauging, pigging, flushing, cleaning and hydrostatic testing of complete pipeline with required quantity of corrosion inhibitor including pre-testing of designated sections complete as per specification and approved by Engineer - in - charge to specified pressures indicated elsewhere and duration after stabilization as per specification, providing all equipment, pumps, fitting, instruments, dead weight tester, pressure recorder, thermocouples etc. and services, supervision, labour, consumables, water including supply of corrosion inhibitor, air, etc. as required, locating of leaks and rectification of defect attributable to Contractor (rectification of defects in linepipe material not attributable to contractor shall be paid separately as per other item of schedule of rate), retesting after rectification, dewatering after successful completion of hydrotesting of entire section and as approved by Engineer - in - charge complete.				
	The duration of hydrostatic test shall be a minimum of 24 hours after stabilization and the test pressure shall be 1.5 times of design pressure.				
	De-watering, swabbing, drying of the entire pipeline as per specification.				
	All tying - in , including the tie - ins of the pipeline with adjacent section of the pipeline including cutting of test header, rebeveling as required, radiography and other NDT examination, joint coating as per specification.				
	Protective coating of 450 micron thick two component coal tar epoxy (applied with the help of minimum three coats) including supply of materials duly approved by owner for all piping valves, fittings, structural steels etc. for buried installations and inside the valve pit.				
	Final clean-up and restoration of right - of - use and disposal of debris and surplus material to designated disposal areas and re installing the area to its earlier state as per satisfaction of concerned authority and as directed by Engineer - in - charge.				
	Supply, fabrication and installation of all types of permanent markers ( pipeline RCC route markers and warning markers) along the route including all associated civil works such as excavation in all types of soil, construction of pedestals and grouping with concrete, clearing, supply and numbers, direction, change etc., restoration of area to original condition and performing all works as per drawing, specification and instruction of Engineer-in-Charge.				
	Restoration after completion of crossing as per direction of statutory authority/ owner / PMC and obtaining NOC.				
	Preparation of as - built drawings, pipe - books (1 set of tracing on polyester film and 3 sets of as - built drawings and 1 soft copy and 3 hard copies of pipe book) all the work shall be executed in accordance with the provision of contract including carrying out all temporary/ ancillary/ auxiliary works and all other acts, deeds, matters and things necessary to make the pipeline ready for precommissioning & commissioning activities. Filling up with nitrogen for preservation of complete network and the associated facilities being installed up to 2 kg/cm2 as per the relevant specifications, other provisions of Contract document and instructions of Engineer-in-Charge.				
	Preparation of all detail job procedure as per Specification, Drawings, Scope of Works and guideline provided in the tender document. All job procedure shall be approved by TPI & PMC.				
	Specified OD      thk (mm)      Material (mm)				
1.1	8" dia. 6.4mm      API 5L Gr. X-52	Meter	2000		
	<b>Note:-</b>				
a)	This item shall be applicable for the underground steel grid main pipeline including distribution pipe lines, fittings, valves & accessories etc. from existing / proposed underground tap-off points (i.e. including arrangement for making provision for tap off except hot tapping and their hook up) on existing / proposed steel grid line to J including their aboveground / under ground installation at proposed DRS/MRS/CNG Inlet & Outlet Connectivity station.				
b)	All crossing installed by HDD/ Moring method without any casing pipe shall be paid separately as per the rates quoted for the same elsewhere in the SOR.				
2	<b>INSTALLATION OF STEEL CARRIER PIPE BY HDD METHOD WITHOUT CASING PIPE (ROAD, CANAL, DRAIN)</b> Complete work of installation of carrier pipe at crossings (between the limits as defined in approved drawings) by HDD method for road, nallah, drain and canal wherever required in all types of soils and terrains including "Receiving and taking over owner supplied three layer PE coated line pipes from Owner's designated place to issue/ dump site (s) and transportation to Contractor's stock yard/ work shop/ work site including all handling loading, unloading, aligning etc. supply of all Contractor supplied material including manpower, equipment, other resources and Requiring the required land for storage. fabrication including string preparation of pipes, welding, welding repair,				
	Radiography, coating of field joints with special type Heat Shrink Sleeve and repair of pipeline coating with special high shear strength Repair patch materials (Raychem's Dirsx" or equivalent) as per specification, pre-testing etc. of complete string made for crossing access for Contractor etc. and execution of , but not limited to, following works in accordance with specifications and instruction of Engineer-in-charge and as per all provision of Contract Document.				
	Pre-construction survey based on site visit, collection of data (if required) from concerned Authority including design and detail engineering and making of crossing drawings for getting their approval from concerned Authority EIC, getting work permit/NOC for crossing as well as crossings (if any) encountered during crossing prior to start the execution of work.				
	Drilling to required depth including maintenance of drill hole in all types of start, all depth to accommodate the pipe line at all conditions encountered during crossing by approved HDD methods, calculation & procedure for providing minimum cover specified minimum covered specified in code/ specification or as decided by concerned authority, whichever is more.				

	Back filling of the ditch/ trench including restoration and cleanup of area and all other works including cleaning,, final hydro testing etc. along with mainline works (as mentioned in clause no. 1.0 above) required as per specification, approved drawings, calculations, methods and to the satisfaction of EIC.				
	Specified OD Thk (mm) Material (mm)				
2.1	Installation of 12"NB steel carrier pipe through HDD method	Meter	150		
	<b>Note:-</b>				
a)	The length of HDD mentioned is tentative and may vary to the considerable extent depending upon requirements as per site conditions. The length mentioned in SOR is indicative for all the crossing to be done by HDD for road, drain & canal Numbers & location shall be decided by EIC depending upon site condition.				
b)	Payment for the length of final tied in carrier pipeline string with mainline laid by HDD are inclusive in this above item rate. No any separate payment shall be made under other clauses mentioned elsewhere.				
3	<b>CROSSING (CASED/ UNCASED)</b> Installation of (contractor supplied) 8" NB 7.1 mm thk. IS:3589 casing pipe by HDD/Augor Boring/Open Cut/Moling for all, road and canal crossings wherever required in all types of soils and terrain, including all associated works as per permission from authority including supply of all including other contractor supplied materials viz.Casing pipe,casing insulators and casing end seals as per standard drawing, materials for casing vents and drain with proper plugging to fill the petroleum jelly / wax etc.including supply of all other materials, equipment, consumables, manpower, welding including visual inspection of all weld joints, installation of casing insulators end seals,vent and drain-off pipes with threaded plugs,backfilling and restoration as original of the facility crossed and performing all works as per drawings, specifications and <b>instructions of Engineer-in- Charge</b> and provisions of contract document.				
	Filling of the casing pipe with Petroleum jelly / Wax as per direction of Engineer in Charge.				
	Restoration after completion of crossing as per direction of statutory authority/ owner / PMC and obtaining NOC.				
3.1	By HDD method with 12" Steel casing pipe.	Meter	150		
	Installation of 8" NB PE Coated Carbon Steel Pipeline without Casing by Moling	Meter	200		
	<b>Note:-</b>				
a)	Supply of all items (Casing pipe, End seal, Insulators, drain, vents etc) for cased crossing are included in this item				
b)	<b>Payment shall be made on the actual length of casing pipe. Total HDD crossing length is not only related to this pipeline but also some other portions are also included in the total length. However, payment for carrier steel pipe inside casing shall be paid separately as per item no. 1 of mainline laying. NO ANY SEPRATE PAYMENT SHALL BE MADE UNDER OTHER CLAUSE FOR THE OTHER LOCATIONS OF HDD CROSSINGS.</b>				
c)	Length of casing shown above are tentative. Actual length may vary considerable as per site condition. Method of crossings shall be decided by Engineer-in-charge. Above items shall be operated entirely at the discretion of Engineer-in-charge/ SGL.				
d)	The length of Moling mentioned is tentative and may vary to the considerable extent depending upon requirements as per site conditions. The length mentioned in SOR is indicative for all the crossing to be done by Moling. Numbers & Locations shall be decided by engineer-in-charge depending upon site condition.				
e)	Payment for the length of final tied-in carrier pipeline string with manline laid by Moling are inclusive in this above item rate. No any separate payment shall be made under other clauses mentioned elsewhere.				
f)	The above quantities are tentative. Contractor shall procure only after approval from Engineer-in-charge. Company may issue above pipe as free issue of available.				
4	<b>PERMANENT MARKERS</b> Supply, fabrication and installation of all types of permanent markers along the route including all associated civil works such as excavation in all types of soil, construction in all types of soil, construction of pedestals and grouting with concrete, cleaning, supply and application of approved colour and quality of primer and paint, stencil letter cutting for numbers direction, change etc. restoration of area to original condition and performing all works as per drawing, specification and instruction of engineer in charge.				
4.1	Pipeline Warning Signs (STEEL AND MDPE PIPE)	Nos.	12		
4.2	Kilometer Marker	Nos.	3		

4.3	Direction Marker	Nos.	10		
4.4	Line Marker	Nos.	48		
5	<b>Pipe supports &amp; other structures</b>				
	a) supply, fabrication and erection of all type of pipe supports like clamps, saddle, guide stops, cradles, lum buckles, anchors, T- posts, stockade / traestle and pipe bridge for overhead piping frames for canopy, approach ladders and platforms , crossover.	M.Ton	0.5		
6	<b>CIVIL WORKS</b>				
6.1	<b>Valve Pits (RCC)</b>				
	All civil works including supply of all materials, excavation of pit,piping supports including all PCC, RCC & brick works for valves pits including pedestals with insert plates as required sealing of pipe at valve pits, providing cover, sand filling etc. and finishing ,clean-up and restoration of site, filling and grading of area around valve station for avoiding any local flooding of area, as per typical drawing enclosed and instructions of Engineer-in-charge.				
a)	Valve Pits of Size (As per drawing attached)	Nos.	4		
6.2	<b>Site Grading</b>				
	Earth in excavation and filling to the grades and levels shown in the approved drawings in all kinds of conditions including for Road embankments, using approved quality good earth from designated borrow area, for all heights and depths including clearing and stripping (min 150mm) of the area marked for filling, taking spot levels, consolidating the exposed natural soil surface, excavating the earth from borrow area loading, transporting & unloading, spreading in layers not exceeding 150mm thickness, breaking clods, watering (if reqd.), ramming and compacting by manual/ mechanical means to give minimum 92% of modified Proctor's density of earth, testing & dressing including disposal of all unserviceable material all complete as per specifications and directions of Engineer-in-charge. (Rate to include cost of all labour, tools, tackles, equipment, hire charges, cost of borrow earth by way of royalties, right of way, cess etc., as applicable with all bye works and sundry works.)	M3	50		
6.3	<b>Plain Cement Concrete</b> Supplying and laying plain cement concrete (Including shuttering of required in all types of concrete work including levelling course below foundation, substructures, superstructure chambers, cable trench, under floors and any other locations.				
6.3.1	PCC 1:2:4 1 Cement : 2 Course Sand : 4 Stone aggregate 20mm nominal size.	M3	10		
6.3.2	PCC : 1:4:8 1 Cement : 4 Course Sand : 8 Stone aggregate 40mm nominal size.	M3	10		
	Rate to include cost of all labour, tools, tackles, equipment , hire charges, Supply of all materials, shuttering, earthwork in excavation and backfilling using approved earth in all conditions etc. with all bye works and sundry works.)				
6.4	<b>Reinforced Cement Concrete</b> Providing and laying reinforced cement of grade M-20 with 20mm and down grade crushed stone aggregate in all types of structures like foundations, pedestals, pedestals bases, pipe supports, sleepers cable trench including construction joints, bitumen painting on surface in contact with soil, providing and fixing reinforcing steel, shuttering, inserts, finishes etc. at all depths and heights complete as per drawings, specifications and direction of the Engineer-in-charge. Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade cement including sulphate resistant cement for sub-structures, R/F steel, inserts, bolts, conduits, bitumen, other minor construction materials, shuttering, staging, earthwork in excavation and backfilling using serviceable earth in all conditions, shorting bailing and pumping out water, testing of concrete, curing etc. with all bye works and sundry works.	M3	10		

6.5	<b>Brick Work</b> Providing brick work with brick class designation M-7.5 of IS:1077 m cm1:4 (1 cement:4 sand) in steps, walls, retaining walls and load bearing structures drains or any shape with all lead, depths & height including curing, scaffolding, etc. as per specifications and drawings with all dye-works and direction of the Engineer-in-charge. (Rate to include cost of all labour, tools, tackles, equipment, hire charges, supply of all materials such as minimum 43 grade cement bricks, finishes, bitumen, other minor construction materials, shuttering, staging, masonry work, plastering penting etc. with all bye-works and sundry works.)	M3	10		
7	<b>RESTORATION OF THE TRENCHES</b> Restoration of the roads; pavements, channels, footpaths, tiles, stones etc. to original condition including supply of the approved quality material required, as per local authorities norma, obtaining NOC from concerned local authorities/ land owners/ third party inspection agencies designated by SGL and to the satisfaction of Engineer-in-charge.				
7.1	Asphalting	Meter	200		
7.2	WBM (Water Bound Macadam)	Meter	200		
7.3	-do- Cement Concrete	Meter	200		
7.4	-do- Brick Soling/ Channels, etc.	Meter	200		
8	Fabrication welding work for two nos CNG Above ground Station piping, Underground Isolation and Future Tap off Connectivity Including the scope of Issuing Material from SGL (free issue Material), Transporting the Material to site, conducting WPS & POR, welding work of station joints (pipe to pipe/fittings joints) with supply of consumables, 100% NDT (Radiography by Xray/Gamma Ray) of weld joints, Erection of pipe sections on pipe supports, tightening of flange joints, skid connection setup, general restoration, above ground hydro static testing of piping and hook up of piping with existing Pipeline, Painting by providing required Manpower, equipments, tools & tackles, as per required quality standard & follows the safety norms. (1) CNG ABOVE GROUND CONNECTIVITY - 2Nos (2) Isolation Valve -4 Nos (3) Future Tap Off -2 Nos	Inch Dia	650		
9	Hook - up & Connectivity for one Nos CNG Station-INLET & OUTLET (Including Supply of all Fittings,IJ and Valves) Complete work of fabrication, erection, painting, testing and making ready for further commissioning / start-up the carbon steel piping system along with pipes, fittings, flanges valves etc. of all sizes and ratings/ thickness, including calibration and installation of pressure & tempetaure gauges (wherever required). Supply and installation of steel pipes (lessthan 2"NB size), all Steel Ball Valves,Globe Valve (Buttweld/RF) ,Insulating Joint ,fittings like elbows, tees, reducers, swages, sockolets, nipples, flanges, blind flanges, spectacle blind flanges, valves blind etc. of all ratings/ thickness and valves , including supply of all consumables, equipment, manpower and other resources and execution of but not limited to the following works in accordance with relevant specifications. Hook-up drawings, scope of work and instruction of Company/ Engineer-in-Charge and as per all provisions of the contract document. (1) CNG ABOVE GROUND CONNECTIVITY - 1 Nos (2) Isolation Valve -2 Nos (3) Future Tap Off -2 Nos	EA	1		
10	Site survey, soil testing , design & detailed engineering of PCP, as per our tender specification.	km	2.2		
11	Supply ,installation, testing and commissioning of <b>test station</b> including required cables, thermit welding/Pin Brazing, foundations etc.- ref. TCP-PCP GTS point no. 10.3 / 10.4 and as per direction of site engineer.				
11.1	Type A	Nos	4		
11.2	Type C	Nos	2		
11.3	Type D	Nos	6		

11.4	Type-E	Nos	3		
11.5	Type-H	Nos	3		
12.0	Supply & installation of TR rectifier monitoring unit with panel				
12.1	Supply installation testing and commissioning of TR Remote monitoring unit	Nos	4		
13	Supply, installation, testing and commissioning of Mg Anode (5kg) including connecting the cable to the pipe, repair of coat & wrap, terminating the cables in the TPL box with cable lugs, sealing material, laying of cable etc. all complete with required material, excavation, backfilling etc. as per our tender specification, approved design, drawing, document and as per direction of site engineer.	Nos	5		
14	Supply, installation, testing and commissioning of Zn grounding cell (20kg) including connecting the cable to the pipe, repair of coat & wrap, terminating the cables in the TPL box with cable lugs, sealing material, laying of cable etc. all complete with required material, excavation, backfilling etc. as per our tender specification, approved design, drawing, document and as per direction of site engineer.	Nos	8		
15	Supply installation, testing and commissioning of spark gap surge diverter including connecting the cable to the pipe, repair of coat & wrap, terminating the cables in the TPL box with cable lugs, sealing material, laying of cable etc. all complete with required material, excavation, backfilling etc. as per specification, approved design, drawing, document and as per direction of site engineer.	Nos	2		
16	Supply, installation, testing and commissioning of Polarization Cell (SSD) including connecting the cable to the pipe, repair of coat & wrap, terminating the cables in the TPL box with cable lugs, sealing material, laying of cable etc. all complete with required material, excavation, backfilling etc. as per our tender specification, approved design, drawing, document and as per direction of site engineer.	Nos	3		
17	<b>De-commissioning, Nitrogen Purging &amp; Commissioning:</b>				
17.1	Isolation of existing 4" Dia Steel Pipeline, Venting of gas and nitrogen purging in entire pipeline section up to CH4 zero, pre commissioning and commissioning of existing pipeline including the supply of nitrogen. and golden joint with existing pipeline.	Meter	3000		
				<b>Total Amount</b>	
				<b>GST 18%</b>	
				<b>Grand Total</b>	

Note : Supply of 2" Pipe & below, all ball valves along with all required fittings and IJ supply is in contractor scope