



**NAME OF WORK: Labour Work For Laying Of Different Size Of Spirally Submerged Arc Welded MS Pipe For Proposed Sarthana WTP to Proposed various UGSR at Bhatena, Magob, Dumbhal & Khatodara under Smart City Mission**

**SCHEDULE 'B'**

**IMPORTANT NOTE:**

The column No. 2 of the table (Schedule - 'B') detailed below, labelled as IDTS means the Item wise Detailed Technical Specification relevant to the item described in Column No. 3 Or as relevant Item.

Sr. No.	IDTS No.	Item	Qty	Unit	Rate in Rs.	Amount in Rs.
1	7	Excavation for pipeline trenches including all safety provision (barricadding, fencing etc.) using site rails with shoring, strutting and stacking the excavated stuff upto 90.00 mt. Cleaning the site etc.complete for lift and strata s specified. The excavation shall be carried out in stable slope for which no extra payment will be made. Rate is inclusive of backfilling the trenches with available excavated earth (excluding rock) in layer including ramming, watering, consolidating the same etc. complete as directed by the Engineer-in-charge.. (a) In all sorts of soil, soft murrum, hard murrum, soft rock, etc. - 0 to 1.5 mt. Depth - 1.5 mt. to 3.0 mt. Depth				
			39610	Cu.m.	126.50	5010665.00
			21550	Cu.m.	136.85	2949117.50
2	8	Excavation of asphalt pavement of any thicknesetc.complete withs tacking the material as directed by the Engineer-in-charge (only carpet thickness shall be considered for calculation of quantity)	1900	Cu.m.	195.00	370500.00
3	9	Reinstatement of asphalt road / pavement using same material for soling and providing new soling and new metalling, grouting with tack coat etc. complete, as directed.	12680	Sq.m.	457.00	5794760.00
4	10	Providing sand bedding of average 15 CM thickness including ramming, watering, consolidating etc. complete.	3810	Cum	396.00	1508760.00
5	12	<b>Inner Cement Mortar Lining</b>				

Sr. No.	IDTS No.	Item	Qty	Unit	Rate in Rs.	Amount in Rs.
		<p>Providing and making inner cement mortar lining to M.S. pipe with mechanical devices in cement mortar 1:1 proportion including cost of all materials, labour, special sand required, machinery power generation, all equipments and taking necessary access opening and manholes, cuts at suitable intervals as directed by Engineer in charge and rewelding the same after done with doubler plates pipes including necessary excavation, refilling, concrete breaking and remaking if necessary breaking gunting and remaking the same, repainting wherever required with epoxy paint in 3 coats, all dewatering including emptying the pipe line and refilling the same after done with including carrying out "C" value performance test of pipeline, complete job as per the directions of the Engineer in charge.</p> <p><b>(a) 9 mm thick for pipes upto 700 mm dia.</b>  <b>(b) 12 mm thick for pipes above 700 mm dia.</b></p> <p>(i) 711 mm dia(OD of Steel Tube) 7.1 mm thickness  (ii) 813 mm dia(OD of Steel Tube) 8 mm thickness  (iii) 1016 mm dia(OD of Steel Tube) 10 mm thickness  (iv) 1219 mm dia(OD of Steel Tube) 10 mm thickness  Inner lining</p>				
6	11	<p>Providing and applying with mechanical arrangement in 1:2 proportion cement, sand gunting to MS pipe surface under 2.1 kg/sq.cm. to 2.80 kg/sq.cm. pressure including removing the loose materials as directed by the Engineer-in-charge and including scrapping the surface with wire brushes, degreasing, cleaning by compressed air and providing, fixing BRC fabric No. 14 as reinforcement, curing for 21 days, disposing off the rebound materials with in a lead of 50 m etc. complete as directed by the E.I.C.</p> <p><b>(a) 25 mm thick</b></p> <p>(i) 711 mm dia(OD of Steel Tube) 7.1 mm thickness  (ii) 813 mm dia(OD of Steel Tube) 8 mm thickness  (iii) 1016 mm dia(OD of Steel Tube) 10 mm thickness  (iv) 1219 mm dia(OD of Steel Tube) 10 mm thickness  Outer Lining</p>	1800 1950 4270 39510	Sq.m. Sq.m. Sq.m. Sq.m.	277.00 312.00 312.00 312.00	498600.00 608400.00 1332240.00 12327120.00
6A	13	<p>Providing and applying sand blasting on external surface of M.S. pipes in such a manner that surface should adhere the outer coating as directed by the Engineer in Charge</p>	49910	Sq.m.	402.00	20063820.00
		<p>Providing and applying sand blasting on external surface of M.S. pipes in such a manner that surface should adhere the outer coating as directed by the Engineer in Charge</p>	49910	Sq.m.	32.40	1617084.00
7	14	<p>Conveying, lowering and laying in position sleeve/swaged ended outercoated spiral welded pipes as of size mentioned below with specials in correct line and level upon levelled trenches. The rate includes conveyance from store to site of work, loading, unloading, hoisting, marginal cutting wherever required, assembling and welding and hydraulic testing etc. complete as directed by the Engineer-in-charge.</p>				

Sr. No.	IDTS No.	Item	Qty	Unit	Rate in Rs.	Amount in Rs.
		(i) 711 mm dia(OD of Steel Tube) 7.1 mm thkness	830	Rmt.	723.35	600380.50
		(ii) 813 mm dia(OD of Steel Tube) 8 mm thkness	790	Rmt.	831.45	656845.50
		(iii) 1016 mm dia(OD of Steel Tube) 10 mm thkness	1380	Rmt.	1039.60	1434648.00
		(iv) 1219 mm dia(OD of Steel Tube) 10 mm thkness	10598	Rmt.	1230.50	13040839.00
8	2	Providing, manufacturing, and supplying at site the M.S. specials as required at site and suitable for field welding at site. The size and dimensions shall be confirming to IS:7322, with providing and applying on outer coating of corrosion and chloride resistant treatment and inner coating of food grade quality epoxy paint as approved by Engineer in charge. The item includes cost of providing M.S.plate, fabrication and conveyance etc. complete as directed by the Engineer-in-charge.				
		(a) M.S.Specials	70000	Kg	72.00	5040000.00
9	15	Labour work for fabrication and supplying at site MS Specials in the followin sizes suitable for field welding at site having thickness 7 to 12 mm th. Plate. The size and dimensions shall be confirming to IS : 7322 as directed by Engineer in Charge. The item includes conveyance from ,store to site of work loading unloading, hosting marginal cutting wherever required, assembling & welding & hydraulic testing etc. complete as directed by Engineer -in -Charge.				
			70000	Kg	13.94	975800.00
10	16	Extra Cutting of Spirally welded pipes having wall thickness up to 12 mm thick for making it of suitable length or making the existing edge true vertical to have perfact square joint including all material equipments and labour required for cutting the pipes excluding cutting of pipe for M.S. Specials.				
		(a) Above 5 mm up to 10 mm thick	100	Rmt.	72.45	7245.00
		(b) Above 10 mm thick	100	Rmt.	93.15	9315.00
11	17	Extra field welding in all position with required number runs, for MS pipes internally and// or externally including gauging wherever necessary , fixing appurtenances and other accessories in connection with pipe laying work as per specification				
			100	Rmt.	934.95	93495.00
12	3	Providing and supplying ISI mark CI BF of the following class and diameter including all taxes, insurance, transportation, freight charges, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. com				
		(a) 700 mm dia B/F Valve PN-1.0	0	No.	165000.00	0.00
		(b) 800 mm dia B/F Valve PN-1.0	0	No.	243000.00	0.00
		(c) 1000 mm dia B/F Valve PN-1.0	1	No.	343850.00	343850.00
		(d) 1200 mm dia B/F Valve PN-1.0	5	No.	545000.00	2725000.00
13	4	Providing and supplying ISI mark CI BF (Electrically operated ) valve conforming to BS:5155-1984 &				

Sr. No.	IDTS No.	Item	Qty	Unit	Rate in Rs.	Amount in Rs.
		IS:13095-1991 of the following class and diameter including all taxes, insurance, transportation, freight charges, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. com D/F Butterfly valves, of following class and diameters				
		(a) 700 mm dia	2	No.	250000.00	500000.00
		(b) 800 mm dia	1	No.	300000.00	300000.00
		(c) 1000 mm dia	1	No.	450000.00	450000.00
14	5	Providing, supplying DI DF Resilient seated glandless Sluice / Scour valves conforming to IS 14846-2000 with Gear Box of following class and diameter including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete.				
		(a) 600 mm dia Sluice Valve PN-1.0	7	No.	350000.00	2450000.00
15	6	Providing and supplying DI temper proof Air valves conforming to IS 14845 with SS 304 float gun metal nozzle of approved make and quality of following class and diameter including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. comp.				
		Temper proof air valve with isolation sluice valve PN 1.0				
		(a) 200 mm dia	26	No.	51100.00	1328600.00
		(b) 150 mm dia	1	No.	39500.00	39500.00
		(c) 100 mm dia	0	No.	28000.00	0.00
16	18	Lowering, laying and jointing in position following Sluice valves / BF valves, Electrically operated valve, Resilience seated SV including of all labour				
		(a) 600 mm dia Sluice Valve PN-1.0	7	No.	4865.65	34059.55
		(b) 700 mm dia B/F Valve PN-1.0	2	No.	6168.60	12337.20
		(c) 800 mm dia B/F Valve PN-1.0	1	No.	7987.90	7987.90
		(d) 900 mm dia B/F Valve PN-1.0	0	No.	9289.70	0.00
		(e) 1000 mm dia B/F Valve PN-1.0	1	No.	11460.90	11460.90
		(f) 1200 mm dia B/F Valve PN-1.0	5	No.	15419.20	77096.00
17	19	Providing, testing of corrogate design stainless steel expansion bellows with flanges, 15 mm axial movement, 300 mm overall length with the rods, nuts etc.				
		(a) 600 mm dia Sluice Valve PN-1.0	7	No.	39827.00	278789.00
		(b) 700 mm dia B/F Valve PN-1.0	2	No.	51339.00	102678.00
		(c) 800 mm dia B/F Valve PN-1.0	1	No.	69901.00	69901.00
		(d) 900 mm dia B/F Valve PN-1.0	0	No.	88468.45	0.00
		(e) 1000 mm dia B/F Valve PN-1.0	1	No.	109220.31	109220.31
		(f) 1200 mm dia B/F Valve PN-1.0	5	No.	157277.25	786386.25
18	20	Lowering, laying and jointing in position following Air valves including of all labour, jointing material, including nut bolts and giving satisfactory hydraulic testing etc. complete.				
		(a) 200 mm dia	26	No.	1051.10	27328.60
		(b) 150 mm dia	1	No.	741.75	741.75

Sr. No.	IDTS No.	Item	Qty	Unit	Rate in Rs.	Amount in Rs.
		(c) 100 mm dia	0	No.	645.15	0.00
19		Providing & laying Cement Concrete 1:3:6 (1 Cement , 3 Course sand, 6 graded stone aggregate 40 mm.Nominal size) with ramming, curing etc. complete including cost of form work				
		(a) For Pipe Encasing	310	Cu.m.	2510.86	778366.60
		(b) For foundation and plinth.	94	Cu.m.	2510.86	236020.84
		(c) For Thrust Block	20	Cu.m.	2510.86	50217.20
20	22	Providing & laying ordinary cement concrete in C.C.1:1.5:3 (1 Cement,1.5Coarse sand & 3 coarse agreegate 20 mm Nominal Size)				
		(a) For RCC Slab in C.C.1:1.5:3 for valve chamber	140	Cu.m.	5285.09	739912.60
		(b) For RCC Encasing	2150	Cu.m.	3666.06	7882029.00
		(c) For Thrust Block	120	Cu.m.	3666.06	439927.20
21	23	Providing & fixing T.M.T Fe-500 Bar reinforcement for RCC work including, bending, binding and placing in position etc. complete.				
		(a) For Valve Chamber	27	Mt.	44840.00	1210680.00
		(b) For RCC Encasing	37.0	Mt.	44840.00	1659080.00
		(c) For Thrust Block	3.0	Mt.	44840.00	134520.00
22	24	Providing & constructing brick work using Fly ash bricks having crushing strength not less than 35 kg/sqcm in foundation and plinth in CM (1:6) (1 cement : 6 fine sand)				
		(B) Conventional	380	Cu.m.	2914.86	1107646.80
23	25	Providing and applying 10 mm th.Cement plaster in single coat on brick/concrete walls similar surface for plastering & finished even and smooth with a floating coat of neat cement slurry mixed with admixture of lime or neeru in required proportion etc. complete				
		Cement mortar 1:3 (1 cement : 3 fine sand)	1160	Sq.m.	114.13	132390.80
24	26	Providing & fixing M.S. manhole frame and cover of 0.6 x 0.45 mt.size and approx.50 kg weight with prime coat of red oxide and two coats of oil paint having plate thickness of 12 mm etc.complete as directed by Engineer in charge.	2200	Kg.	60.89	133958.00
25	27	Providing & fixing C.I.Steps of Size 500 mm x150 mm x22.5 mm.painted with a coat of primer and two coats of oil paint etc. complete as directed by Engineer in charge.	359	No.	184.83	66353.97
26	28	<b>Crossings</b> Drilling of 1800 mm dia. Horizontal borehole for water main pipeline under the road including strata with required length including fixing of 1626 mm dia. MS casing pipe 16.0 mm thick Epoxy coated on				

Sr. No.	IDTS No.	Item	Qty	Unit	Rate in Rs.	Amount in Rs.
27	29	<p>both side pipe line with welding pushing etc. complete. Providing and fixing Safety Chain wherever necessary as per the stipulation in the design complete. The item also includes providing, supplying, laying, jointing and welding of water main of 1219 mm OD MS carrier pipe – 10 mm thick conforming to IS-3589 : 2001 with epoxy coated on both sides of pipe).</p> <p><b>1626 mm (OD) MS casing pipe + 1219 mm OD MS Carrier pipe</b></p>	240	Rmt	92490.00	22197600.00
28	30	<p>Drilling of 1600 mm dia. Horizontal borehole for water main pipeline under the road including strata with required length including fixing of 1422 mm dia. MS casing pipe 14.2 mm thick Epoxy coated on both side pipe line with welding pushing etc. complete. Providing and fixing Safety Chain wherever necessary as per the stipulation in the design complete. The item also includes providing, supplying, laying, jointing and welding of water main of 1016 mm OD MS carrier pipe – 10 mm thick conforming to IS-3589 : 2001 with epoxy coated on both sides of pipe).</p> <p><b>1422 mm (OD) MS casing pipe + 1016 mm OD MS Carrier pipe</b></p>	120	Rmt	75050.00	9006000.00
28	30	<p>Drilling of 1400 mm dia. Horizontal borehole for water main pipeline under the road including strata with required length including fixing of 1219 mm dia. MS casing pipe 12.5 mm thick Epoxy coated on both side pipe line with welding pushing etc. complete. Providing and fixing Safety Chain wherever necessary as per the stipulation in the design complete. The item also includes providing, supplying, laying, jointing and welding of water main of 813 mm OD MS carrier pipe – 8 mm thick conforming to IS-3589 : 2001 with epoxy coated on both sides of pipe).</p> <p><b>1219 mm (OD) MS casing pipe + 813 mm OD MS Carrier pipe</b></p>	60	Rmt	56480.00	3388800.00
29	48	<p>Providing &amp; Laying of 1600mm dia.(FID) MS Casing Pipe by Pushing method for 1219 mm dia MS pipeline under the Ahmedabad - Mumbai B.G. Railway track between Elec pole no 264/7 and 264/8. Permission from the concerned authority i.e. Railway shall be in the scope of bidder The work shall be carried out as per the contractors own design approved by Railway based on approved GAD by Railway Authority (including all approval from Railway) including pushing.</p> <p>The works to be carried out by bidder are as follows :</p> <p>(1) Designing, Manufacturing MS pipe as well as MS specials in accordance of IS:5822-1994 or its latest edition in suitable lengths from MS plates (plates</p>				

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		<p>shall be as per IS : 2062-1992 or its latest editin of Grade 'B'-Fe 410), as per IS : 3589-2001 or its latest edition including cutting, bending of plates to the required shapes, welding by Submerged Arc Welding, having joints with bevelled ends including ultrasonic and Radiographic at random including inside 100 micron epoxy coating, one coat of 25 micron of zinc rich primer confirming to specification of DGS -175, Type -A and 3 coats of 25 micron of non toxix high build black epoxy paint and Outside elastomeric polyurethene coating including hydraulic testing and tolerances for outside diameter of pipe shell. Circularity test as per IS : 3589-2001 and all other required tests, carting to the site of coating and unloading, stacking, etc. including all taxes, duties, local taxes etc. complete, as required.</p> <p>(i) 1600 mm finished Inside Diameter (FID) 22 mm thick MS Plate (Casing Pipe)</p> <p>(ii) 1199 mm finished Inside Diameter (FID) 10 mm thick MS Plate (Carrier Pipe)</p> <p>(2) Laying 1600 mm. dia. MS pipe (by Pushing method) of required length including open excavation for thrust bed necessary form work, concreting, curing, vibrating , pushing etc. complete as per contractor's own design approved by competent authority based on approved GAD by competent authority. The item includes</p> <p>(a) Providing and laying M-25 grade for cast in situ thrust bed and thrust wall with necessary excavation with shoring and strutting, formwork, curing, vibrating as per contractor's own design approved by railway.</p> <p>(b) Laying MS pipe by Pushing Method</p> <p>(c) Providing and fixing TMT-Fe-500 bars for thrust bed and thrust wall including supplying, cleaning, cutting, bending and placing in position, lapping, binding with 16 SWG soft iron wire irrespective of locations and levels</p>				
		<p>(d) Providing front shield, jointing, jacking rigs, sliding channels spacers etc. All the structural steel used will be ownership of contractor after pushing work is completed.</p> <p>(e) Pushing with hydraulic jack without disturbance to pavement including all necessary excavation for thrust bed and thrust wall, necessary shoring and strutting required, if any, excavation within the pipe with all necessary refilling upto ground level after pushing works completed including carting of extra earth upto a lead of 5 Kms. This also includes necessary labour cost for pushing and including necessary cost of hydraulic pipe and oil for hydraulic jacks including necessary depreciation cost of jack.</p>				

Sr. No.	IDTS No.	Item	Qty	Unit	Rate in Rs.	Amount in Rs.
30		(3) Lowering, laying in trench and jointing in position to correct line and level MS Pipe with inside 100 micron zinc epoxy paint and Outside elastomeric polyurethane coating etc. complete. (i) 1600 mm finished Inside Diameter (FID) 22 mm thick MS Plate				
		(4) Lowering, laying and jointing of 1199 mm finished Inside Diameter (FID) 10 mm thick MS Plate (Carrier Pipe) in casing pipe and in trench by open excavation as per the site requirement and as directed by the Engineer-in-charge.				
		(5) Constructing RCC Valve Chamber by doing excavation, refilling and built in RCC M25 grade concrete with TMT Fe-500 reinforcement including PCC 1:2:4, RCC M25 for wall, base slab and top slab, including formwork etc. complete. Concrete work should be fair finish.				
		(6) The works also includes Providing and laying High density Polyethelene or other similar materials spacers, Providing and fixing Indicator Board as per site condition and as directed and Providing and fixing vent pipe for 50 mm diameter as directed.	62	Rmt	120506.00	7471372.00
		<b>Constructing pipeline (1626 mm dia MS pipe + 1219 mm dia MS pipe) carrying bridge across Sarthana Khadi</b>				
	31	(a) Clearing the site before commencement of work and after completion of the work.	LS		16000.00	16,000
	32	(b) Marking of centre line of bridge alignment along longitudinal axis and giving out foundation layout with theodolite levels including providing necessary masonry reference pillars, establishing bench mark etc. as directed.	LS		12500.00	12,500
	33	(c) Constructing temporary bund	LS		100000	100000.00
	34	(d) Empty boring for providing 1000 mm dia R.C.C. bored piles for required depth with all plants & equipments as required.	140	Rmt.	1704.38	238612.50
	35	(e) Providing and casting in situ controlled concrete with quartzite trap metal of size 40 mm or downgraded including ramming, vibrating, curing, under water concreting by tremmie or other equivalent method, finishing etc. complete but excluding the cost of reinforcement for the following items				
		(A) R.C.C. piles in M-35	110	Cu.m.	4884.36	537279.60
		(B) R.C.C. piles cap in M-30	52	Cu.m.	4722.76	245583.52



Sr. No.	IDTS No.	Item	Qty	Unit	Rate in Rs.	Amount in Rs.
	36	(f) Providing and placing in position TMT bar reinforcement Fe - 500 grade for RCC bored piles including cutting, bending, hooking, binding with 18 SWG annealed binding wire, placing in position, providing C.C. cover blocks in position to ensure required cover at time of concreting etc. complete as per detailed drawing & as directed by Engineer-in-Charge.	17.0	MT.	44549.08	757334.36
	37	(g) Providing and placing in position TMT bar reinforcement Fe - 500 grade for pile cap including cutting, bending, hooking, binding with 18 SWG annealed binding wire, placing in position, providing C.C. cover blocks in position to ensure required cover at time of concreting etc. complete as per detailed drawing & as directed by Engineer-in-Charge.	8	MT.	44549.08	356392.64
	38	(h) Providing & placing in position 5 mm thick M.S. liner plate for 1000 mm. dia R.C.C. bored piles including cutting, bending, fabrication, welding, driving etc. complete as directed by Engineer-in-Charge.	7	MT	55917.64	391423.48
	39	(i) Conducting low strain pile integrity testing on RC Bored foundation piles using pile integrity tester equipment manufactured by Pile Dynamics Inc. of USA of TNO of Netherland or equivalent that confirms to ASTM D5882.	7	No.	1500	10500.00
	40	(j) Conducting high straining dynamic pile testing on R.C. of Bored piles using pile driving analyzer. The equipment shall have ability to record both force and velocity. Both straic and acceleration sensors shall be used to collect data and atleast two pairs shall be connected at diametrically opp. sides of the pile. The test and equipment shall conform to ASTM - D4945 - 1989. The test shall be conducted by an experienced independent test agency.	1	No.	38560	38560.00
	41	(k) Providing below pile cap, levelling course with ordinary cement concrete M-15 using quartzite trap metal of size 40 mm or downgraded including vibrating, ramming and curing etc. complete.	4	Cu.m	2918.9	11675.60
	42	(l) Providing and fixing in position elastomeric bearing as per drawing	184320	Cu.cm	1.111	204779.52
	43	(m) Steel work welded, in built up sections, framed work including cutting hoisting, fixing in position and applying aprimer coat of red lead paint. in trusses and trussed purlins up to 25 m span and 15 m overall height (A) For Superstructure	39	MT	60852.5	2373247.50

Sr. No.	IDTS No.	Item	Qty	Unit	Rate in Rs.	Amount in Rs.
	44	(n) Providing and fixing Post and Pipe railing as per detailed drawing including 3 coats of painting to steel works complete.	60	Rmt.	1174.63	70477.80
	45	(o) Providing and casting in situ controlled concrete of M-20 grade for RCC work in super structure including curing, vibrating, compacting, finishing etc. complete. (i) deck Slab(Precast)	15	Cu.m.	4982.33	74734.95
	46	(p) Providing and placing in position TMT bar reinforcement Fe - 500 grade for Precast deck slab including cutting, bending, hooking, binding with 18 SWG annealed binding wire, placing in position, providing C.C. cover blocks in position to ensure required cover at time of concreting etc. complete as per detailed drawing & as directed by Engineer-in-Charge.	2	MT.	44549.08	89098.16
	47	(q) <b>PCC for Screed Decking</b>	10	Cu.m.	2649	26490.00
<b>TOTAL AMOUNT OF WORK:</b>						<b>14,57,84,135.60</b>

**TOTAL IN WORDS : RUPEES FOURTEEN CRORES FIFTY SEVEN LACS EIGHTY FOUR THOUSAND ONE HUNDRED THIRTY FIVE & SIXTY PAISA ONLY.**

**Deputy General Manager (Water)  
Surat Smart City Development Limited  
Surat Municipal Corporation**

**SIGNATURE & SEAL OF CONTRACTOR  
NAME & ADDRESS:  
DATE:**