DETAILED ESTIMATE

Jal Jeevan Mission (JJM)-WSS - to Santhanpara, Rajakumary (Part) and Senapathy (Part) Panchayaths in Idukki District-Package IIA - Supplying and Laying Distribution and Providing FHTCs in Senapathy GP-Pipeline Work

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
1	Supplying , Laying and commissioning of Distribution- Cost of materials						
1.001	100.98.119						
	Supply of DI K9 Pipe Conforming to IS 8329/2000, 300mm Dia.						
	Swargemedu peak 300 mm DI K9						
		1	10.000				10.000
	Total						**10.000**
						Total Quantity in metre	**10.000**
1.002	100.98.118						
	Supply of DI K9 Pipe Conforming to IS 8329/2000, 250mm Dia.						
	Swargamedu 250 mm DI K9						
		1	10.000				10.000
	Total						**10.000**
						Total Quantity in metre	**10.000**
1.003	100.98.116						
	Supply of DI K9 Pipe Conforming to IS 8329/2000, 150mm Dia.						
	150 mm DI K9						
	Swargamedu	1	407.000				407.000
	Swargamedu peak	1	1298.000				1298.000
	Spare pipe	1	43.000				43.000
	Deduction of MS pipe	-1	67.000				-67.000
	Total						**1681.000**
						Total Quantity in metre	**1681.000**
1.004	100.98.115						
	Supply of DI K9 Pipe Conforming to IS 8329/2000, 100mm Dia.						
	100 mm DI K9						
	Swargamedu peak	1	8326.000				8326.000
	Spare pipe	1	209.000				209.000
	Deduction of MS pipe	-1	16.000				-16.000

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Total						**8519.000**
						Total Quantity in metre	**8519.000**
1.005	100.98.134						
	Supply of HDPE Pipe PE 100 (IS 4984/1995), 8kg, 90mm Outer Dia.						
	90mm HDPE 8kg						
	Swargamedu	1	3489.000				3489.000
	Total						**3489.000**
						Total Quantity in metre	**3489.000**
1.006	OD89818/2022-2023						
	90mm HDPE Specials (8kg)						
	90mm HDPE 8kg Specials						
	HDPE	1	3489.000				3489.000
	Total						**3489.000**
						Total Quantity in metre	**3489.000**
1.007	100.98.154						
	Supply of HDPE Pipe PE 100 (IS 4984/1995), 10kg, 90mm Outer Dia.						
	90mm HDPE 10kg						
	Swargamedu	1	1987.000				1987.000
	Total						**1987.000**
						Total Quantity in metre	**1987.000**
1.008	OD89819/2022-2023						
	Specials for 90 mm HDPE pipe(10kg)						
	90mm HDPE 10kg Specials						
		1	1987.000				1987.000
	Total						**1987.000**
						Total Quantity in metre	**1987.000**
1.009	100.98.194						
	Supply of HDPE Pipe PE 100 (IS 4984/1995), 16kg, 90mm Outer Dia.						
	90mm HDPE 16kg						
	Swargamedu	1	12652.000				12652.000
	Raider line	1	3000.000				3000.000
	Total						**15652.000**
						Total Quantity in metre	**15652.000**
1.010	OD89820/2022-2023						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Specials for 90mm HDPE Pipe (16kg)						
	90mm HDPE 16kg Specials						
		1	15652.000				15652.000
	Total						**15652.000**
						Total Quantity in metre	**15652.000**
1.011	100.98.440						
	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Single Orifice, Small Orifice Type S1, Size 25mm.						
	25 mm CI air valve						
		40					40.000
	Total						**40.000**
						Total Quantity in no	**40.000**
1.012	100.98.441						
	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Single Orifice, Small Orifice Type S1, Size 40mm.						
	Air valve						
	40mm	15					15.000
	Total						**15.000**
						Total Quantity in no	**15.000**
1.013	100.98.436						
	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Kinetic Air Valve Type DK, Size 80mm.						
	80 mm CI air valve						
		2					2.000
	Total						**2.000**
						Total Quantity in no	**2.000**
1.014	100.98.463						
	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 300mm.						
	300 mm Valve						
		1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
1.015	100.98.474						
	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.0, Size 250mm.						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	250 mm sluice valve						
		1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
1.016	100.98.472						
	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.0, Size 150mm.						
	150 mm sluice valve						
		2					2.000
	Scour	2					2.000
	Total						**4.000**
						Total Quantity in no	**4.000**
1.017	100.98.470						
	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.0, Size 100mm.						
	100 mm sluice valve						
	FCV	1					1.000
	Scour	5					5.000
	Total						**6.000**
						Total Quantity in no	**6.000**
1.018	100.98.469						
	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.0, Size 80mm.						
	80 mm sluice valve						
		17					17.000
	Total						**17.000**
						Total Quantity in no	**17.000**
2	Supplying , Laying and commissioning of Distribution- Working charges						
2.001	100.1.1						
	Excavating trenches of required width for pipes, cables, etc., including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth, including consolidating each deposited layer by ramming, watering, etc., and disposing of surplus excavated soil as directed, within a lead of 50m, in all kinds of soil.						
	Excavating trenches- All kinds of soil 75%						
	300 mm DI K9	1	10.000	1.000	1.250	0.750000	9.375
	250 mm DI K9	1	10.000	0.900	1.200	0.750000	8.100

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	150 mm DI K9	1	1638.000	0.600	1.050	0.750000	773.955
	100 mm DI K9	1	8310.000	0.600	1.000	0.750000	3739.500
	90 mm HDPE	1	21128.000	0.500	1.000	0.750000	7923.000
	Total						**12453.930**
						Total Quantity in cum	**12453.930**
2.002	100.1.5						
	Excavating trenches of required width for pipes, cables, etc., including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth, including consolidating each deposited layer by ramming, watering, etc., and disposing of surplus excavated soil as directed, within a lead of 50 m, in Ordinary Rock.						
	Excavation in Ordinary Rock						
	300 mm DI K9	1	10.000	1.000	1.250	0.150000	1.875
	250 mm DI K9	1	10.000	0.900	1.200	0.150000	1.620
	150 mm DI K9	1	1638.000	0.600	1.050	0.150000	154.791
	100 mm DI K9	1	8310.000	0.600	1.000	0.150000	747.900
	90 mm HDPE	1	21128.000	0.500	1.000	0.150000	1584.600
	Total						**2490.786**
						Total Quantity in cum	**2490.786**
2.003	100.2.2						
	Excavation work by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5m in width or 10m2 on plan), including dressing of sides and ramming of bottoms, lift up to 1.5m, including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50m, in Medium Rock where Blasting is Prohibited.						
	Excavation in Medium Rock						
	300 mm DI K9	1	10.000	1.000	1.250	0.050000	0.625
	250 mm DI K9	1	10.000	0.900	1.200	0.050000	0.540
	150 mm DI K9	1	1638.000	0.600	1.050	0.050000	51.597

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	100 mm DI K9	1	8310.000	0.600	1.000	0.050000	249.300
	90 mm HDPE	1	21128.000	0.500	1.000	0.050000	528.200
	Total						**830.262**
						Total Quantity in cum	**830.262**
2.004	100.1.13						
	Excavating trenches of required width for pipes, cables, etc., including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth, including consolidating each deposited layer by ramming, watering, etc., and disposing of surplus excavated soil as directed, within a lead of 50m, in Hard Rock where Blasting is Prohibited.						
	Excavation in Hard Rock						
	300 mm DI K9	1	10.000	1.000	1.250	0.050000	0.625
	250 mm DI K9	1	10.000	0.900	1.200	0.050000	0.540
	150 mm DI K9	1	1638.000	0.600	1.050	0.050000	51.597
	100 mm DI K9	1	8310.000	0.600	1.000	0.050000	249.300
	90 mm HDPE	1	21128.000	0.500	1.000	0.050000	528.200
	Total						**830.262**
						Total Quantity in cum	**830.262**
2.005	100.8.1						
	Fencing one side of trenches, 1.50m height with two rows of 10cm plastic caution tape in vertical casuarina pole (girth 15cm to 24cm) fixed at 2m intervals.						
	Fencing						
		1	28000.000				28000.000
	Total						**28000.000**
						Total Quantity in metre	**28000.000**
2.006	100.14.5						
	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials: 300mm diameter Ductile Iron Class K-9 Pipes.						
	Conveying and laying 300mm DI						
	Zone 1	1	10.000				10.000
	Total						**10.000**

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
						Total Quantity in metre	**10.000**
2.007	18.70.5						
	Providing push - on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket:300 mm dia pipe						
	Providing push - on-joints for 300mm DI						
		2					2.000
	Total						**2.000**
						Total Quantity in joint	**2.000**
2.008	100.35.5						
	Testing 300mm DI/CI pipeline with potable water to the required test pressure. 300 mm dia Observed Data derived from item no.1023 of PHED DATA						
	Testing 300mm DI						
		1	10.000				10.000
	Total						**10.000**
						Total Quantity in metre	**10.000**
2.009	100.14.4						
	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials: 250mm diameter Ductile Iron Class K-9 Pipes.						
	Conveying and laying 250 mm DI						
	Zone II	1	10.000				10.000
	Total						**10.000**
						Total Quantity in metre	**10.000**
2.010	18.70.4						
	Providing push - on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket:250 mm dia pipes						
	Providing push- on -joints						
		2					2.000
	Total						**2.000**
						Total Quantity in joint	**2.000**
2.011	100.35.4						
	Testing 250mm DI/CI pipeline with potable water to the required test pressure . 250 mm dia Observed Data derived from item no.1022 of PHED DATA						
	Testing 250 mm DI						
		1	10.000				10.000
	Total						**10.000**

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
						Total Quantity in metre	**10.000**
2.012	100.14.2						
	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials: 150mm diameter Ductile Iron Class K-9 Pipes.						
	Conveying and laying 150 mm DI						
	Zone I	1	1298.000				1298.000
	Zone II	1	407.000				407.000
	Total						**1705.000**
						Total Quantity in metre	**1705.000**
2.013	18.70.2						
	Providing push - on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket:150 mm dia pipes						
	Providing push- on -joints 150mm DI						
		315					315.000
	Total						**315.000**
						Total Quantity in joint	**315.000**
2.014	18.30.4						
	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:150 mm diameter pipe						
	Flanged joints to double flanged pipes						
		8					8.000
	Total						**8.000**
						Total Quantity in no	**8.000**
2.015	OD111147/2022-2023						
	Labour for cutting DI pipe with steel saw 150 mm diameter of DI Pipe						
	150mm DI cutting						
		4					4.000
	Total						**4.000**
						Total Quantity in Each Cut	**4.000**
2.016	100.35.2						
	Testing 150mm DI/CI pipeline with potable water to the required test pressure 150 mm dia Observed Data derived from item no.1018 of PHED DATA						
	Testing 150 mm DI						
	Zone I	1	1298.000				1298.000
	Zone II	1	407.000				407.000
	Total						**1705.000**

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
						Total Quantity in metre	**1705.000**
2.017	100.14.1						
	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials: 100mm diameter Ductile Iron Class K-9 Pipes.						
	Conveying and laying 100mm DI						
	Zone I	1	8326.000				8326.000
	Total						**8326.000**
						Total Quantity in metre	**8326.000**
2.018	18.70.1						
	Providing push - on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket:100 mm dia pipes						
	Providing push - on-joints for 100mm DI						
	Zone I	1520					1520.000
	Total						**1520.000**
						Total Quantity in joint	**1520.000**
2.019	18.30.2						
	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:100 mm diameter pipe						
	Providing flanged joint 100mm DI						
		3					3.000
	Total						**3.000**
						Total Quantity in no	**3.000**
2.020	OD113362/2022-2023						
	Labour for cutting DI pipe with steel saw 100 mm diameter of DI Pipe						
	Labour for cutting 100mm DI						
		32					32.000
	Total						**32.000**
						Total Quantity in Each Cut	**32.000**
2.021	100.35.1						
	Testing 100mm DI/CI pipeline with potable water to the required test pressure 100 mm dia						
	Testing 100mm DI						
		1	8326.000				8326.000
	Total						**8326.000**
						Total Quantity in metre	**8326.000**
2.022	18.12.8						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing and fixing G.I. pipes complete with G.I fittings including trenching and refilling etc. External work80 mm dia nominal bore						
	80mm GI						
		1	382.000				382.000
	Total						**382.000**
						Total Quantity in metre	**382.000**
2.023	100.10.1						
	Laying HDPE pipes (IS : 4984) on land portion including conveying within initial lead and aligning the pipes, electro-fusion welding using automatic or semi-automatic electrofusion machines, testing the pipeline thus fabricated to suit the hydraulic working pressure and after testing, aligning the pipeline, lowering the pipe in position into the trenches already made, testing the line to suitable pressure with potable water before back filling and levelling the trenches including all labour charge, hire for appliances etc., complete but excluding cost of pipe and fittings: 90mm Nominal Outer Diameter pipes.						
	Laying 90 mm HDPE						
		1	21128.000				21128.000
	Total						**21128.000**
						Total Quantity in metre	**21128.000**
2.024	100.31.1.1						
	Conveying and fixing C.I. sluice valves (with cap) by providing bolts, nuts, rubber insertions etc., complete, but excluding the cost of the valve (tail pieces, if required, will be paid separately): 80mm diameter, Class I.						
	80 mm sluice valve						
		17					17.000
	Total						**17.000**
						Total Quantity in no	**17.000**
2.025	100.31.1.2						
	Conveying and fixing C.I. sluice valves (with cap) by providing bolts, nuts, rubber insertions etc., complete, but excluding the cost of the valve (tail pieces, if required, will be paid separately): 100mm diameter, Class I.						
	100mm sluice valves						
		6					6.000
	Total						**6.000**
						Total Quantity in no	**6.000**
2.026	100.31.1.4						
	Conveying and fixing C.I. sluice valves (with cap) by providing bolts, nuts, rubber insertions etc., complete, but excluding the cost of the valve (tail pieces, if required, will be paid separately): 150mm diameter, Class I.						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	150 mm sluice valve						
		4					4.000
	Total						**4.000**
						Total Quantity in no	**4.000**
2.027	100.31.1.6						
	Conveying and fixing C.I. sluice valves (with cap) by providing bolts, nuts, rubber insertions etc., complete, but excluding the cost of the valve (tail pieces, if required, will be paid separately): 250mm diameter, Class I.						
	250 mm sluice valve						
		1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
2.028	100.31.1.7						
	Conveying and fixing C.I. sluice valves (with cap) by providing bolts, nuts, rubber insertions etc., complete, but excluding the cost of the valve (tail pieces, if required, will be paid separately): 300mm diameter, Class I.						
	300mm sluice valves						
		1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
2.029	100.32.1						
	Conveying and fixing C. I. Single Acting Air Valve of approved quality with bolts, nuts, rubber insertions etc., complete, but excluding the cost of air valve (tail pieces, if required, will be paid separately): 25mm Single Acting Air Valve.						
	25 mm CI air valve						
		40					40.000
	Total						**40.000**
						Total Quantity in no	**40.000**
2.030	100.32.2						
	Conveying and fixing C. I. Single Acting Air Valve of approved quality with bolts, nuts, rubber insertions etc., complete, but excluding the cost of air valve (tail pieces, if required, will be paid separately): 40mm Single Acting Air Valve.						
	40 mm CI air valve						
		15					15.000
	Total						**15.000**
						Total Quantity in no	**15.000**
2.031	100.32.4						
	Conveying and fixing C. I. Double Acting Air Valve of approved quality with bolts, nuts, rubber insertions etc., complete, but excluding the cost of air valve (tail pieces, if required, will be paid separately): 80mm Double Acting Air Valve.						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	80mm Air valve						
		2					2.000
	Total						**2.000**
						Total Quantity in no	**2.000**
2.032	100.59.1						
	Cutting the bituminous / concrete roads with cutting machine for a minimum depth of 200mm along the sides of proposed alignment of the pipe to be laid without causing any damage to other utilities, including the charges for hire and conveyance of tools and plant, cost of consumables and charges for lighting, watching, ribbon fencing, caution boards, traffic diversion, and as per the direction of departmental officers etc. complete, before carrying out the demolition of bituminous / concrete road by mechanical means and carrying out the excavation.						
	Cutting the bituminous / concrete roads						
		2	1200.000				2400.000
	Total						**2400.000**
						Total Quantity in metre	**2400.000**
2.033	15.59						
	Dismantling of flexible pavement (bituminous courses) by mechanical means and disposal of dismantled material up to a lead of 1 kilo metre, as per direction of Engineer-in-charge.						
	Dismantling of flexible pavement						
		1	1200.000	0.800	0.200		192.000
	Total						**192.000**
						Total Quantity in cum	**192.000**
2.034	15.2.2						
	Demolishing cement concrete manually / by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in-Charge.Nominal concrete 1:4:8 leaner mix (including equivalent design mix)						
	Demolishing cement concrete						
		1	2000.000	0.300	0.150		90.000
	Total						**90.000**
						Total Quantity in cum	**90.000**
2.035	18.67.1						
	Providing and laying S & S C.I. Standard specials suitable for mechanical jointing as per IS 13382:Upto 300 mm dia						
	Providing and laying S & S CI standard specials						
	300 mm DI K9	1				0.480000	0.480
	250 mm DI K9	1				0.360000	0.360

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	150 mm DI K9	4				0.200000	0.800
	100 mm DI K9	17				0.130000	2.210
	Total						**3.850**
						Total Quantity in quintal	**3.850**
2.036	18.68.1						
	Providing and laying D.I specials of class K - 12 suitable for push - on jointing as per IS : 9523 :Upt 600 mm dia						
	D.I specials of class K - 12						
	300 x 11.25 BEND	7				0.400000	2.800
	300 x 22.5 BEND	4				0.440000	1.760
	300 x 45 BEND	2				0.500000	1.000
	300 x 90 BEND	2				0.680000	1.360
	250 x 11.25 BEND	7				0.300000	2.100
	250 x 22.5 BEND	3				0.320000	0.960
	250 x 45 BEND	2				0.360000	0.720
	250 x 90 BEND	2				0.480000	0.960
	150x11.25 BEND	21				0.140000	2.940
	150x22.5 BEND	15				0.150000	2.250
	150x45 BEND	8				0.160000	1.280
	150x90 BEND	4				0.200000	0.800
	100x11.5 BEND	35				0.900000	31.500
	100x22.5 BEND	29				0.900000	26.100
	100x45 BEND	15				0.100000	1.500
	100x90 BEND	4				0.110000	0.440
	300 TP	3				0.380000	1.140

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	300x250 Tee	3				0.740000	2.220
	300x150 Tee	3				0.580000	1.740
	300x100 Tee	3				0.510000	1.530
	300x80 Tee	3				0.500000	1.500
	250 TP	3				0.280000	0.840
	250x150 Tee	3				0.450000	1.350
	250x100 Tee	3				0.400000	1.200
	250x80 Tee	3				0.370000	1.110
	150 TP	3				0.140000	0.420
	150x100 Tee	3				0.220000	0.660
	150x80 Tee	3				0.200000	0.600
	100 TP	3				0.900000	2.700
	100x80	3				0.140000	0.420
	Total						**95.900**
						Total Quantity in quintal	**95.900**
2.037	100.37.6.1						
	In situ fabrication of M.S. pipes of size 150mm (I.D.) using 8mm thick M.S. plate including cost and conveyance charges of M.S. plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under-coat of primer etc., complete.						
	In situ fabrication of M.S. pipes of size 150mm (I.D.)						
		1	67.000				67.000
	Total						**67.000**
						Total Quantity in metre	**67.000**
2.038	100.37.6.2						
	Fabricating M.S. flanges of diameter 150mm using 12mm thick M.S. plate including cost and conveyance charges of M.S. plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under-coat of primer etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Fabricating M.S. flanges of diameter 150mm using 12mm thick M.S. plate						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
		16	1.000	1.000	1.000	1.000000	16.000
	Total						**16.000**
						Total Quantity in no	**16.000**
2.039	100.37.6.3						
	Cutting 150mm (I.D.) M.S. pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Cutting 150mm (I.D.) M.S. pipes						
		32					32.000
	Total						**32.000**
						Total Quantity in no	**32.000**
2.040	100.37.6.4						
	Welding 150mm (I.D.) M.S. pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods, all labour and hire charges of tools etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Welding 150mm (I.D.) M.S. pipes for making bends						
		32					32.000
	Total						**32.000**
						Total Quantity in no	**32.000**
2.041	100.37.6.5						
	Grinding cut and weld edges of 150mm (I.D.) M.S. pipes during fabrication work including all labour and hire charges of tools etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Grinding cut and weld edges of 150mm (I.D.) M.S. pipes						
		64					64.000
	Total						**64.000**
						Total Quantity in no	**64.000**
2.042	100.37.5.1						
	In situ fabrication of M.S. pipes of size 100mm (I.D.) using 8mm thick M.S. plate including cost and conveyance charges of M.S. plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under-coat of primer etc., complete.						
	In situ fabrication of M.S. pipes of size 100mm (I.D.)						
		1	16.000				16.000
	Total						**16.000**
						Total Quantity in metre	**16.000**
2.043	100.37.5.2						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Fabricating M.S. flanges of diameter 100mm using 12mm thick M.S. plate including cost and conveyance charges of M.S. plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under-coat of primer etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Fabricating M.S. flanges of diameter 100mm using 12mm thick M.S. plate						
		6					6.000
	Total						**6.000**
						Total Quantity in no	**6.000**
2.044	100.37.5.3						
	Cutting 100mm (I.D.) M.S. pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Cutting 100mm (I.D.) M.S. pipes						
		8					8.000
	Total						**8.000**
						Total Quantity in no	**8.000**
2.045	100.37.5.4						
	Welding 100mm (I.D.) M.S. pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods, all labour and hire charges of tools etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Welding 100mm (I.D.) M.S. pipes for making bends						
		8					8.000
	Total						**8.000**
						Total Quantity in no	**8.000**
2.046	100.37.5.5						
	Grinding cut and weld edges of 100mm (I.D.) M.S. pipes during fabrication work including all labour and hire charges of tools etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Grinding cut and weld edges of 100mm (I.D.) M.S. pipes						
		16					16.000
	Total						**16.000**
						Total Quantity in no	**16.000**
2.047	2.6.1						
	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil						
	Excavation						
	valve Chamber Size 1x1x1	25	1.600	1.600	1.500		96.000

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Total						**96.000**
						Total Quantity in cum	**96.000**
2.048	4.1.3						
	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)						
	PCC and Anchor Block						
	Basement	25	1.600	1.600	0.100		6.400
	Anchor Block	320	0.600	0.600	0.600		69.120
	Deduction for pipe volume	-320	3.14*.05*.05		0.600		-1.507
	Total						**74.013**
						Total Quantity in cum	**74.013**
2.049	5.1.2						
	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:1:1:5:3 (1 cement 1.5 coarse sand :3 graded stone aggregate 20 mm nominal size						
	RCC						
	Base slab 1X1X1	25	1.500	1.500	0.150		8.438
	Long wall 1X1X1	25	5.000	0.250	1.000		31.250
	Slab 1X1X1	75	5.000	1.500	0.250		140.625
	Total						**180.313**
						Total Quantity in cum	**180.313**
2.050	5.22.6						
	Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelThermo - Mechanically Treated bars of grade Fe-500D or more						
	Reinforcement						
	For valve chamber	1	180.313			60.000000	10818.780
	For anchor block	1	69.120			0.200000	13.824
	Total						**10832.604**
						Total Quantity in kilogram	**10832.604**
2.051	5.9.2						
	Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Form work						
	Side wall Outer 1x1x1	25	1.5*4		1.000		150.000
	Side wall Inner1x1x1	25	1*4		1.000		100.000
	Anchor block	320	0.6*4		0.600		460.800
	Total						**710.800**
						Total Quantity in sqm	**710.800**
2.052	5.9.3						
	Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform						
	Centering and shuttering						
	Cover slab side wall 1x1x1	25	4.000		0.250		25.000
	Total						**25.000**
						Total Quantity in sqm	**25.000**
2.053	16.83						
	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.						
	interlock removal						
		1	800.000	0.900			720.000
	Total						**720.000**
						Total Quantity in sqm	**720.000**
2.054	16.84						
	Laying old cement concrete interlocking paver blocks of any design/ shape laid in required line, level, curvature, colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (Old CC paver blocks shall be supplied by the department free of cost.)						
	Laying Old Inter lock						
		1	800.000	0.900		0.800000	576.000
	Total						**576.000**
						Total Quantity in sqm	**576.000**
2.055	16.68						
	Providing and laying 60 mm thick factory made cement concrete interlocking paver block of M - 30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Laying New Inter lock						
		1	800.000	0.900		0.200000	144.000
	Total						**144.000**
						Total Quantity in sqm	**144.000**
3	Providing FHTCs						
3.001	100.60.13.4.2						
	Providing 15mm (1/2 inch) house connection with 15mm water meter from existing AC / GI mains up to 125 mm dia., up to a length of 5m using 20mm (1/2 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression / GM / Brass specials viz. brass ferrule, brass hexagonal nipple, GM full way wheel valve, bend, MTA, FTA, couplers, GI / MS Service Saddle of suitable size etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges, including the cost of tested Class B Multijet water meter with ISI mark and weather resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers.						
	Upto 125mm GI(80mm)						
	Connection	81					81.000
	Total						**81.000**
						Total Quantity in no	**81.000**
3.002	100.60.13.6.2						
	Providing 20mm (3/4 inch) house connection with 15mm water meter from existing AC / GI mains up to 125 mm dia., up to a length of 5 m using 25mm (3/4 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression / GM / Brass specials viz. brass ferrule, brass hexagonal nipple, GM full way wheel valve, bend, MTA, FTA, couplers, GI / MS Service Saddle of suitable size etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges, including the cost of tested Class B Multijet water meter with ISI mark and weather resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers.						
	Upto 125mm GI(80mm)						
	Connection	122					122.000
	Total						**122.000**
						Total Quantity in no	**122.000**
3.003	100.60.13.1.2						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing 15mm (1/2 inch) house connection with 15mm water meter from existing PVC / HDPE mains up to 110 mm dia., up to a length of 5m using 20mm (1/2 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression / GM / Brass specials viz. brass ferrule, brass hexagonal nipple, GM full way wheel valve, bend, MTA, FTA, couplers, PVC Service Saddle of suitable size etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges, including the cost of tested Class B Multijet water meter with ISI mark and weather resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers.						
	Upto 110mm HDPE(90mm,110mm)						
	Connection	805					805.000
	Total						**805.000**
						Total Quantity in no	**805.000**
3.004	100.60.13.3.2						
	Providing 20mm (3/4 inch) house connection with 15mm water meter from existing PVC / HDPE mains up to 110 mm dia., up to a length of 5m using 25mm (3/4 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression / GM / Brass specials viz. brass ferrule, brass hexagonal nipple, GM full way wheel valve, bend, MTA, FTA, couplers, PVC Service Saddle of suitable size etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges,including the cost of tested Class B Multijet water meter and weather with ISI mark resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers.						
	Upto 110mm HDPE(90mm,110mm)						
	Connection	857					857.000
	Total						**857.000**
						Total Quantity in no	**857.000**
3.005	100.60.13.7.2						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing 15mm (1/2 inch) house connection with 15mm water meter from existing CI mains up to 125 mm dia., up to a length of 5 m using 20mm (1/2 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression / GM / Brass specials viz. brass ferrule, brass hexagonal nipple, GM full way wheel valve, bend, MTA, FTA, couplers etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges, including the cost of tested Class B Multijet water meter with ISI mark and weather resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers						
	Water connection						
		150					150.000
	Total						**150.000**
						Total Quantity in no	**150.000**
3.006	100.60.13.9.2						
	Providing 20mm (3/4 inch) house connection with 15mm water meter from existing CI mains up to 125 mm dia., up to a length of 5 m using 25mm (3/4 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression / GM / Brass specials viz. brass ferrule, brass hexagonal nipple, GM full way wheel valve, bend, MTA, FTA, couplers etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges, including the cost of tested Class B Multijet water meter with ISI mark and weather resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers						
	Water connection						
		200					200.000
	Total						**200.000**
						Total Quantity in no	**200.000**
3.007	100.60.14.7.2						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing 15mm (1/2 inch) house connection with 15mm water meter from existing CI mains from 150mm to 200mm dia., up to a length of 5 m using 20mm (1/2 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression / GM / Brass specials viz. brass ferrule, brass hexagonal nipple, GM full way wheel valve, bend, MTA, FTA, couplers etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges, including the cost of tested Class B Multijet water meter with ISI mark and weather resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers.						
	CI mains from 150mm to 200mm DI						
	Connection	72					72.000
	Total						**72.000**
						Total Quantity in no	**72.000**
3.008	100.60.14.9.2						
	Providing 20mm (3/4 inch) house connection with 15mm water meter from existing CI mains from 150mm to 200mm dia., up to a length of 5 m using 25mm (3/4 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression / GM / Brass specials viz. brass ferrule, brass hexagonal nipple, GM full way wheel valve, bend, MTA, FTA, couplers etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges, including the cost of tested Class B Multijet water meter with ISI mark and weather resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers.						
	CI mains from 150mm to 200mm DI						
	Connection	106					106.000
	Total						**106.000**
						Total Quantity in no	**106.000**
3.009	100.60.21.1.1						
	Providing 15mm (1/2 inch) GM Air Valve in the water meter assembly for 15mm water connection, using 20mm (1/2 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression specials including cost of materials, consumables, hire for tools and labour charges etc. complete and as per the directions of the department officers.						
	15 mm Air valve						
		1108					1108.000
	Total						**1108.000**

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
						Total Quantity in no	**1108.000**
3.010	100.60.21.2.1						
	Providing 20mm (3/4 inch) GM Air Valve in the water meter assembly for 20mm water connection, using 25mm (3/4 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PP PN 16 Compression specials including cost of materials, consumables, hire for tools and labour charges etc. complete and as per the directions of the department officers.						
	20mm Air valve						
		1285					1285.000
	Total						**1285.000**
						Total Quantity in no	**1285.000**
3.011	100.60.23.3.1						
	Providing 15mm PVC Tap in the water meter assembly for 15mm (1/2 inch) water connection, using 20mm (1/2 inch) Indian Standard uPVC Class 6 pipes, uPVC specials and PP PN 16 Compression specials including cost of materials, consumables, hire charges for tools and labour charges etc. complete and as per the direction of departmental officers.						
	15mm PVC Tap						
		1108					1108.000
	Total						**1108.000**
						Total Quantity in no	**1108.000**
3.012	100.60.23.4.1						
	Providing 15mm PVC Tap in the water meter assembly for 20mm (3/4 inch) water connection, using 25mm (3/4 inch) Indian Standard Class 6 uPVC pipes, uPVC specials and PP PN 16 Compression specials including cost of materials, consumables, hire charges for tools and labour charges etc. complete and as per the direction of departmental officers.						
	PVC Tap						
		1285					1285.000
	Total						**1285.000**
						Total Quantity in no	**1285.000**
3.013	100.60.15.1.1						
	Providing additional length of house connection pipe using 20 mm (1/2 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PN16 specials and testing the joints etc., by trenching and refilling in all kinds of soil with trench of average cross section 0.3m x 0.75m for laying of connection pipe and service pipe, lighting, watching, providing caution boards, traffic control etc., including cost of materials, hire for tools, cost of consumables and labour charges etc. complete, but excluding the cost of cutting of concrete / tarred / bituminous roads etc., and as per the directions of the department officers.						
	Additional Length 20mm						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Additional Length 20mm Pipe (24m/Connection)	1108	24.000				26592.000
	Total						**26592.000**
						Total Quantity in metre	**26592.000**
3.014	100.60.15.2.1						
	Providing additional length of house connection pipe using 25 mm (3/4 inch) PE Pipe, PE80, PN16, Conforming to IS 4984: 2016 or later edition and PN 16 specials and testing the joints etc., by trenching and refilling in all kinds of soil with trench of average cross section 0.3m x 0.75m for laying of connection pipe and service pipe, lighting, watching, providing caution boards, traffic control etc., including cost of materials, hire for tools, cost of consumables and labour charges etc. complete, but excluding the cost of cutting of concrete / tarred / bituminous roads etc., and as per the directions of the department officers.						
	Additional Length 25mm						
	Additional Length 25mm Pipe (24m/Connection)	1285	48.000				61680.000
	Total						**61680.000**
						Total Quantity in metre	**61680.000**
3.015	15.2.1						
	Demolishing cement concrete manually / by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in-Charge.Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)						
	Demolishing cement concrete						
		1	2000.000	0.300	0.150		90.000
	Total						**90.000**
						Total Quantity in cum	**90.000**
3.016	100.59.1						
	Cutting the bituminous / concrete roads with cutting machine for a minimum depth of 200mm along the sides of proposed alignment of the pipe to be laid without causing any damage to other utilities, including the charges for hire and conveyance of tools and plant, cost of consumables and charges for lighting, watching, ribbon fencing, caution boards, traffic diversion, and as per the direction of departmental officers etc. complete, before carrying out the demolition of bituminous / concrete road by mechanical means and carrying out the excavation.						
	Cutting the bituminous / concrete roads with cutting machine for a minimum depth of						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	200mm						
		20	1000.000				20000.000
	Total						**20000.000**
						Total Quantity in metre	**20000.000**
3.017	15.59						
	Dismantling of flexible pavement (bituminous courses) by mechanical means and disposal of dismantled material up to a lead of 1 kilo metre, as per direction of Engineer-in-charge.						
	Dismantling of flexible pavement						
		1	2000.000	0.600	0.200		240.000
	Total						**240.000**
						Total Quantity in cum	**240.000**
4	Road restoration charges PWD/SH/NH						
4.001	3.6						
	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead upto 1000m						
	Excavation						
	Berm PWD	1	12000.000	0.500	0.200		1200.000
	Berm SH/NH	1	6000.000	0.500	0.200		600.000
	CC pavement PWD/NH	1	2000.000	0.500	0.350		350.000
	Tar cut PWD	1	1400.000	0.600	0.400		336.000
	Bitumen cutting SH/NH	1	1000.000	0.600	0.400		240.000
	Interlock	1	900.000	0.900	0.200		162.000
	Total						**2888.000**
						Total Quantity in cum	**2888.000**
4.002	4.2.A.1						
	Construction of granular sub-base by providing graded material, spreading in uniform layers with a motor grader on a prepared surface, mixing by mix in-place method with rotavator at OMC, and compacting with a vibratory roller to achieve the desired density, complete as per clause 401. Grading-III -For lower sub-base - Mix in Place Method						
	GSB						
	Berm PWD	1	12000.000	0.500	0.200		1200.000

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Berm SH/NH	1	6000.000	0.500	0.200		600.000
	CC pavement PWD/NH	1	2000.000	0.500	0.150		150.000
	Tar cut PWD	1	1400.000	0.600	0.200		168.000
	Bitumen cutting SH/NH	1	1000.000	0.600	0.200		120.000
	Interlock	1	900.000	0.900	0.200		162.000
	Total						**2400.000**
						Total Quantity in cum	**2400.000**
4.003	4.12						
	Providing, laying, spreading and compacting graded stone aggregate to Wet Mix Macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.						
	WMM						
	TAR CUT PWD	1	1400.000	0.600	0.200		168.000
	BITUMEN CUTTING SH	1	1000.000	0.600	0.200		120.000
	Total						**288.000**
						Total Quantity in cum	**288.000**
4.004	5.1.a						
	Providing and applying primer coat with bitumen emulsion (SS) on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.70 - 1.0 kg/sqm using mechanical means.						
	Primer coat						
	TAR CUT PWD	1	1400.000	1.000			1400.000
	BITUMEN CUTTING SH	1	1000.000	1.500			1500.000
	Total						**2900.000**
						Total Quantity in sqm	**2900.000**
4.005	5.2.b						
	Providing and applying tack coat with bitumen emulsion (RS) using emulsion pressure distributor at the rate of 0.25 - 0.30 kg per sqm on the prepared Granular Surface cleaned with mechanical broom.						
	Tack coat						
	SH TC cut	1	1000.000	1.500			1500.000
	TAR CUT PWD	1	1400.000	1.000			1400.000
	Total						**2900.000**
						Total Quantity in sqm	**2900.000**
4.006	5.3.2.a						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing and laying bituminous macadam with 80-100 TPH hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading premixed with a bituminous binder (VG 30), transported to the site, laid over a previously prepared surface with paver finisher to the required grade, level, and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction For Grading II - (19 mm nominal size)						
	BM						
	BM	1	600.000	1.500	0.050		45.000
	Total						**45.000**
						Total Quantity in cum	**45.000**
4.007	5.2.a						
	Providing and applying tack coat with bitumen emulsion(RS) using emulsion pressure distributor at the rate of 0.20 - 0.30 kg per sqm on the prepared bituminous surface cleaned with mechanical broom.						
	Tack coat						
	BITUMEN CUTTING SH	1	1000.000	1.500			1500.000
	Total						**1500.000**
						Total Quantity in sqm	**1500.000**
4.008	5.6.2.a						
	Providing and laying bituminous concrete with 80-100 TPH hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with a bituminous binder(NRMB) @ 5.4 percent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level, and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects For Grading - II (13.2 mm Nominal Size)						
	BC						
	BC	1	600.000	1.500	0.030		27.000
	Total						**27.000**
						Total Quantity in cum	**27.000**
4.009	5.7.1						
	Providing, laying and rolling of close-graded premix surfacing material of 20 mm thickness composed of 11.2 mm to 0.09 mm (Type-A) aggregates using viscosity grade bitumen (VG - 30) to the required line, grade, and level to serve as wearing course on a previously prepared base, including mixing in a suitable HMP of appropriate capacity not less than 75 tonnes/hour., laying and rolling with a Smooth wheeled roller 8-10 tonne capacity, and finishing to the required level and grade.						
	Close graded premix						
	TAR CUT PWD	1	1400.000	1.000			1400.000
	Total						**1400.000**
						Total Quantity in sqm	**1400.000**

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
4.010	5.8.a						
	Providing and laying surface dressing as wearing course in single coat using crushed stone aggregates of specified size on a layer of bituminous binder (VG 30) laid on the prepared surface and rolling with 8-10 tonne smooth wheeled steel roller. Grading I - 19 mm nominal chipping size						
	Seal coat						
	Tar cutPWD	1	1400.000	1.000			1400.000
	Total						**1400.000**
						Total Quantity in sqm	**1400.000**
4.011	12.4						
	Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.						
	PCC						
	CONCRETE 40 mm	1	2000.000	0.500	0.150		150.000
	Total						**150.000**
						Total Quantity in cum	**150.000**
4.012	12.8.B.1						
	Plain/Reinforced Cement Concrete in Open Foundation complete as per Drawing and Technical Specifications PCC Grade M20 						
	PCC/RCC						
	CC PWD/NH/SH	1	2000.000	0.500	0.050		50.000
	Total						**50.000**
						Total Quantity in cum	**50.000**
5	Road restoration charges LSGD						
5.001	3.5.3						
	Excavation in Soil using Hydraulic Excavator and Tippers with disposal upto 1000 m Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross-sections, and transporting to the embankment location with a lift upto 1.5 m and lead upto 1000 m as per Technical Specification Clause 302.3						
	Excavation						
	Tar Road	1	2000.000	0.600	0.400		480.000
	Concrete Road	1	2000.000	0.500	0.350		350.000
	Total						**830.000**
						Total Quantity in cum	**830.000**
5.002	4.1.A.1						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Granular Sub-base with Well Graded Material (Table 400.1) (A) By Mix in Place Method Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401. (i) For Grading I Material						
	GSB						
	Tar Road	1	2000.000	0.600	0.200		240.000
	Concrete Road	1	2000.000	0.500	0.200		200.000
	Total						**440.000**
						Total Quantity in cum	**440.000**
5.003	4.9						
	Wet Mix Macadam Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tipper to site, laying in uniform layers in sub-base/base course on a well prepared sub-base and compacting with smooth wheel roller of 80 to 100kN weight to achieve the desired density including lighting, barricading and maintenance of diversion, etc as per Tables 400.11 & 400.12 and Technical Specification Clause 406. By Mechanical Means with 1 km lead						
	WMM						
	Tar Road	1	2000.000	0.600	0.200		240.000
	Total						**240.000**
						Total Quantity in cum	**240.000**
5.004	5.1.1a						
	Prime Coat :- Low porosity Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502						
	prime coat						
	Tar Road	1	2000.000	1.000			2000.000
	Total						**2000.000**
						Total Quantity in sqm	**2000.000**
5.005	5.2.3a						
	Tack Coat Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surfaces treated with primer & cleaned with Hydraulic broom as per Technical Specification Clause 503.						
	tack coat						
	Tar Road	1	2000.000	1.000			2000.000
	Total						**2000.000**
						Total Quantity in sqm	**2000.000**

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
5.006	5.9.1.2a						
	20mm thick Open-Graded Premix Carpet using Bituminous (penetration grade/modified bitumen) Binder - Bitumen S-65 Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat of either Type A or Type B or Type C as per Technical Specification Clause 508. Case - I By Manual Means (II) Bitumen (S-65)						
	OGPC						
	Tar Road	1	2000.000	1.000			2000.000
	Total						**2000.000**
						Total Quantity in sqm	**2000.000**
5.007	5.12.A.3.2a						
	Seal Coat - Manual Means - Type C - Bitumen S-65 Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type A, Type B and Type C as per Technical Specification Clause 510 A. By Manual Means :- Case - III : Type C (II) Bitumen (S-65)						
	Seal coat						
	Tar Road	1	2000.000	1.000			2000.000
	Total						**2000.000**
						Total Quantity in sqm	**2000.000**
5.008	11.4.3.1						
	Providing concrete for plain/reinforced concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203 III. P.C.C. grade M 20 (i) Nominal mix (1:2:4)						
	cement concrete						
	Concrete Road	1	2000.000	0.500	0.150		150.000
	Total						**150.000**
						Total Quantity in cum	**150.000**