## **DETAILED ESTIMATE**

# Jal Jeevan Mission (JJM)-WSS - to Santhanpara, Rajakumary (Part) and Senapathy (Part) Panchayaths in Idukki District-Package III- Clear Water Pumping Main, GLSR in Rajakumary

GP-Pipeline Work

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
1	Supply and laying	Clear Wa	ter Pumping	Main-cost of	f materials		
1.001	100.98.117						
	Supply of DI K9 P	ipe Confo	orming to IS	8329/2000, 2	200mm Dia.		
	Supply of 200m	m DI pipe	es			r	
	200mm DI pipes	1	2615.000				2615.000
	Spare for future Maintenance	1	66.000	0			66.000
	Deduction for MS pipe	-1	24.000	5 AN			-24.000
	Total		2657.000				
				- Tota	al Quantity	in metre	2657.000
1.002	100.98.441						
	Supply of CI Air V Type S1, Size 40m		nforming to I	S 14848 - 20	000, Single (	Drifice, Sm	all Orifice
	Air valve 40mm						
		8					8.000
	Total						8.000
				r	Fotal Quant	tity in no	8.000
1.003	100.98.461						
	Supply of CI Doub Valve with Cap PM			ve Conformi	ng to IS 148	46 - 2000,	Sluice
	200mm sluice v	alve				, , , , , , , , , , , , , , , , , , ,	
	For Scour arrangement	1					1.000
	Total						1.000
				r	Fotal Quant	tity in no	1.000
2	Supply and laying	200mm E	DI K9 CWPM	I- Working c	charges		
2.001	100.1.1						
	Excavating trenche sockets, and dressi getting out the exc exceeding 20cm in watering, etc., and 50m, in all kinds o	ng of side avated sol depth, in disposing	es, ramming o il, and then ro cluding cons	of bottoms, d eturning the olidating eac	lepth up to 1 soil as require th deposited	.5m, inclu red, in laye layer by ra	ding ers not amming,

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity				
	Excavating trer	iches for a	ll kids of soi	1 - 75%							
	200mm DI K9	1	2615.000	0.800	1.150	$\begin{array}{c} 0.7500\\00\end{array}$	1804.350				
	Deduction for MS Pipe	-1	24.000	0.800	1.150	$\begin{array}{c} 0.7500\\00\end{array}$	-16.560				
	Total						1787.790				
	Total Quantity in cum 1787.790										
2.002	100.1.5										
	Excavating trencho sockets, and dress getting out the exc exceeding 20cm ir watering, etc., and m, in Ordinary Ro	ing of side avated sol depth, in disposing	es, ramming o il, and then re cluding conso	of bottoms, de eturning the s olidating eac	epth up to 1. oil as requir h deposited	5m, inclue ed, in laye layer by ra	ding ers not amming,				
	Excavating tre	nches for	ordinary rock	x - 15%		F					
	200mm DI K9	1	2615.000	0.800	1.150	0.1500 00	360.870				
	Deduction for MS Pipe	-1	24.000	0.800	1.150	$\begin{array}{c} 0.1500\\00\end{array}$	-3.312				
	Total			<b>7</b>			357.558				
	Total Quantity in cum										
2.003	Total Quantity in cum 357.558   100.2.2 Of Public Works										
	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.										
					1.		ithin a lead				
	Excavation work				1.	r	ithin a lead				
					1.150	0.0500	120.290				
	Excavation work	t for medi	um rock - 5%	)			120.290				
	Excavation work 200mm DI K9 Deduction for	t for medi	um rock - 5% 2615.000	0.800	1.150	00 0.0500	120.290				
	Excavation work 200mm DI K9 Deduction for MS Pipe	t for medi	um rock - 5% 2615.000	0.800	1.150	00 0.0500 00					
2.004	Excavation work 200mm DI K9 Deduction for MS Pipe	t for medi	um rock - 5% 2615.000	0.800	1.150 1.150	00 0.0500 00	120.290 -1.104 <b>119.186</b>				

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
	200 mm DI K9	1	2615.000	0.800	1.150	$\begin{array}{c} 0.0500\\00\end{array}$	120.290		
	Deduction for MS pipe	-1	24.000	0.800	1.150	$\begin{array}{c} 0.0500\\00\end{array}$	-1.104		
	Total						119.186		
				Тс	otal Quantit	y in cum	119.186		
2.005	100.8.1								
	Fencing one side of in vertical casuaring						caution tape		
	Fencing one sid	le for tren	ches						
		1	2500.000				2500.000		
	Total						2500.000		
				Tot	al Quantity	in metre	2500.000		
2.006	100.59.1		1	laΩ.					
	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		OF PUBLIC	WORKS					
	bituminous cutting	2	700.000				1400.000		
	Total						1400.000		
				Tot	al Quantity	in metre	1400.000		
2.007	15.59								
	Dismantling of fle disposal of dismar Engineer-in-charg Dismantling of fl	itled mate e.	rial up to a le	ninous course ead of 1 kilo	es ) by mech metre, as per	anical me direction	ans and of		
		1	1400.000	0.800	0.200		224.000		
	Total						224.000		
				Te	otal Quantit	v in cum	224.000		
2.008	15.2.1								
	Demolishing ceme material within 50 concrete 1:3:6 or r	metres le	ad as per dire	ection of Eng	gineer - in-Cl				
	CC demolition								
		1	700.000	0.800	0.150		84.000		
	Total						84.000		

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
				Т	otal Quantit	y in cum	84.000		
2.009	100.14.3								
	Conveying and lay to IS: 8329 exclud K-9 Pipes.	ving S&S ing cost c	Centrifugally of pipes and s	y Cast (Spun pecials: 200	) / Ductile Iromm diameter	on Pipes c Ductile I	conforming ron Class		
	S & S								
		1	2591.000				2591.000		
	Total						2591.000		
	Total Quantity in metre								
2.010	18.30.5								
	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:200 mm diameter pipe								
	Flanged Joints - 2	200mm pi	pe		[				
		3	1	<u>M</u>			3.000		
	Total		and the second s	6XD			3.000		
			1000		Total Quant	tity in no	3.000		
2.011	18.70.3								
	Providing push - o Pipes including tes pipes Push on joints 200	sting of jo	ints and incl						
		485					485.000		
	Total	405					485.000		
	Total			Тс	tal Quantity	y in joint	485.000		
2.012	OD110494/2022-2	2023		10	tai Quantity	juijoint	402.000		
2.012	Labour for cutting		with steel sav	v 200 mm di	ameter of DI	Pine			
	Labour of cutting			<u>, 200 mm an</u>		1100			
	Labour of cutting 200mm DI pipes	20					20.000		
	Total	•					20.000		
				Total C	)uantity in F	Each Cut	20.000		
2.013	100.35.3				- •				
	Testing 200mm D 200 mm dia Observed Data der		-		-	test press	ure		
	Testing 200mr	n Pipe							
		1	2615.000				2615.000		
	Total						2615.000		
				Tot	al Quantity	in metre	2615.000		

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
2.014	18.68.1									
	Providing and layi IS : 9523 :Upt 600	ng D.I spe mm dia	ecials of clas	s K - 12 suit	able for push	ı - on joint	ing as per			
	200mm DI Bend									
	90 degree	4				0.3200	1.280			
	45 degree	5				0.2600	1.300			
	22.5 degree	11				0.2300	2.530			
	11.5 degree	15				0.2100	3.150			
	200 * 200 mm TEE	2				0.4100	0.820			
	200 TP	2	- C	2		0.2000	0.400			
	Total		ATS.	QAN			9.480			
			- Alton	Tota	Quantity in	n quintal	9.480			
2.015	18.69.1			316	_					
	Providing and laying D.I Specials of Class K - 12 suitable for mechanical jointing as per IS : 9523 :Upto 600 mm dia									
	MJ Collar- 200m	n pipe	OF PUBLIC	WORKS						
		8				0.2700 00	2.160			
	Total									
				Tota	l Quantity i	n quintal	2.160			
2.016	100.31.1.5									
	Conveying and fix insertions etc., con will be paid separa	nplete, bu	t excluding t	the cost of the						
	Sluice Valve - 20	00mm								
	For Scour arrangement	1					1.000			
	Total						1.000			
				,	<b>Fotal Quan</b> t	tity in no	1.000			
2.017	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.									
	Air Valve 40mm	<u>г</u>								
		8					8.000			

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
	Total						8.000		
	Total Quantity in no								
2.018	100.37.7.1								
	In situ fabrication including cost and of painting the stee even shade over ar	conveyar el work w n under-co	ice charges o ith two or mo	of M.S. plate, ore coat delu	all fabrication all fabricatio	on charge	s, charges		
	MS Pipe - 200mm								
		1	24.000				24.000		
	Total						24.000		
				Tot	al Quantity	in metre	24.000		
2.019	100.37.7.2								
	Fabricating M.S. f cost and conveyan the steel work with over an under-coat plates.	ce charge 1 two or n	s of M.S. pla nore coat del	te, all fabrication te, all fabrication te de la construcción de la construcción de la construcción de la const te de la construcción de la constr	ation charges face paint to	s, charges give an e	of painting even shade		
	MS flange - 200m	m							
		6		<b>J</b>			6.000		
	Total						6.000		
			e-PLATFOR OF PUBLIC	M FOR THE M WORKS	Total Quant	tity in no	6.000		
2.020	100.37.7.3								
	Cutting 200mm (I. including cost of g fabricated with 8m	as, all lab	our and hire	king bends a charges of to	nd other spec ools etc., com	cials by ga plete: For	as cutting r pipes		
	Cutting								
		12					12.000		
	Total						12.000		
					Total Quant	tity in no	12.000		
2.021	100.37.7.4								
	Welding 200mm (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								
		12					12.000		
	Total						12.000		
					Total Quant	tity in no	12.000		
2.022	100.37.7.5								

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Grinding cut and v including all labou 8mm thick M.S. pl	r and hire					
	Grinding						
		24					24.000
	Total						24.000
				,	Total Quant	tity in no	24.000
3	Construction of va	lve cham	ber & a	nchor blocks			
3.001	2.6.1						
	Earth work in exca over areas (exceed including disposal earth to be levelled Excavation for	ing 30 cm of excava l and neat	n in depth, 1. ated earth, lea ly dressed.A	5 m in width ad up to 50 n	as well as 10 n and lift up	0 sqm on	plan)
	1mx1mx1m	1	1.600	1.600	1.500		3.840
	Total	-	123	QAN	11000		3.840
			1000	Te	otal Quantit	v in cum	3.840
3.002	4.1.3			- 10	<u> </u>	, · · · · · · _ ·	
	Providing and layi of centering and sh (zone-III) : 4 grade	nuttering -	- All work up	to plinth lev	el:1:2:4 (cer	de excludi nent : 2 c	ing the cost oarse sand
	PCC for Valve	chamber		ſ			
	1mx1mx1m	1	1.600	1.600	0.100		0.256
	For anchor block	50	0.600	0.600	0.600		10.800
	Total						11.056
				То	otal Quantit	y in cum	11.056
3.003	5.1.2						
	Providing and layi excluding the cost to plinth level:1:1: nominal size	of center	ing, shutterin	ng, finishing a	and reinforce	ement - Al	ll work up
	RCC for side	wall and	cover slab				
	Wall s	1	5.000	0.250	1.000		1.250
	Base slab	1	1.500	1.500	0.150		0.338
	1mx1mx1m cover slab	1	1.500	1.500	0.250		0.563
	Total						2.151
				То	otal Quantit	y in cum	2.151
3.004	5.9.2						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
	Centering and shu thickness) includir	ttering inc ng attached	luding struttir 1 pilasters, bu	ng, etc. and r tteresses, pli	emoval of fo nth and strin	orm for:W	Valls (any s etc.		
	Centering and s	huttering f	for valve chan	nber					
	Side wall outside 1mx1mx1m	1	4*1.5		1.000		6.000		
	Side wall inside 1mx1mx1m	1	4*1		1.000		4.000		
	Base slab 1mx1mx1m	1	1.500*4	0.150			0.900		
	Anchor blocks	50	.6*4		0.600		72.000		
	Total						82.900		
	Total Quantity in sq								
3.005	Total Quantity in sqm 82.   5 5.9.3								
	Centering and shu floors, roofs, landi	ngs, balco	nies and acce	ess platform	removal of fo	orm for:S	uspended		
	Centering and sh	uttering fo	or valve cham	ber					
	Cover slab side 1mx1mx1m	1	1.5*4	ela-	0.250		1.500		
	Total			211	_		1.500		
3.006	<b>Total</b> 5.22.6				tal Quantity	7 in sqm	<u>1.500</u> 1.500		
3.006	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5	ding all co 00D or mo	omplete upto	ding straight	ening, cuttin	g, bendin	<b>1.500</b> g, placing		
3.006	5.22.6 Steel reinforcemer in position and bin	ding all co 00D or mo	omplete upto	ding straight	ening, cuttin	g, bendin chanicall	<b>1.500</b> g, placing		
3.006	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5	ding all co 00D or mo	omplete upto	ding straight	ening, cuttin	g, bendin chanically 60.000 000	<b>1.500</b> g, placing y Treated		
3.006	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5 Steel reinforcer	ding all co 00D or mo nent	omplete upto	ding straight	ening, cuttin	g, bendin chanically 60.000	<b>1.500</b> g, placing		
3.006	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5 Steel reinforcer Valve Chamber	ading all co 00D or mo nent 2.151	omplete upto	ding straight	ening, cuttin	g, bendin chanicall 60.000 000 20.000	<b>1.500</b> g, placing y Treated 129.060		
3.006	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5 Steel reinforcer Valve Chamber Anchor Block	ading all co 00D or mo nent 2.151	omplete upto	ding straight plinth levelT	ening, cuttin	g, bendin chanically 60.000 000 20.000 000	<b>1.500</b> g, placing y Treated 129.060 216.000		
	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5 Steel reinforcer Valve Chamber Anchor Block	nding all co 00D or mo nent 2.151 10.8	omplete upto	ding straight plinth levelT	ening, cuttin Thermo - Me	g, bendin chanically 60.000 000 20.000 000	<b>1.500</b> g, placing y Treated 129.060 216.000 <b>345.060</b>		
4	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5 Steel reinforcer Valve Chamber Anchor Block <b>Total</b>	nding all co 00D or mo nent 2.151 10.8	omplete upto	ding straight plinth levelT	ening, cuttin Thermo - Me	g, bendin chanically 60.000 000 20.000 000	<b>1.500</b> g, placing y Treated 129.060 216.000 <b>345.060</b>		
4	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5 Steel reinforcer Valve Chamber Anchor Block <b>Total</b> Road restoration c	harges PW	Difference of the second secon	ding straight plinth levelT Total Q raulic excava rimming bott ades and cross	ening, cuttin Thermo - Med uantity in king uantity in king ator of 0.9 cu tom and side ss sections, a	g, bendin chanically 60.000 000 20.000 000 <b>ilogram</b> m bucket slopes, in	1.500 g, placing y Treated 129.060 216.000 345.060 345.060		
4	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5 Steel reinforcen Valve Chamber Anchor Block <b>Total</b> Road restoration c 3.6 Excavation for roa including cutting a accordance with re	harges PW	Difference of the second secon	ding straight plinth levelT Total Q raulic excava rimming bott ades and cross	ening, cuttin Thermo - Med uantity in king uantity in king ator of 0.9 cu tom and side ss sections, a	g, bendin chanically 60.000 000 20.000 000 <b>ilogram</b> m bucket slopes, in	1.500 g, placing y Treated 129.060 216.000 345.060 345.060		
4	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5 Steel reinforcer Valve Chamber Anchor Block <b>Total</b> Road restoration c 3.6 Excavation for roa including cutting a accordance with re the embankment le	harges PW	Difference of the second secon	ding straight plinth levelT Total Q raulic excava rimming bott ades and cross	ening, cuttin Thermo - Med uantity in king uantity in king ator of 0.9 cu tom and side ss sections, a	g, bendin chanically 60.000 000 20.000 000 <b>ilogram</b> m bucket slopes, in	1.500 g, placing y Treated 129.060 216.000 345.060 345.060 345.060		
4	5.22.6 Steel reinforcemer in position and bin bars of grade Fe-5 Steel reinforcen Valve Chamber Anchor Block <b>Total</b> Road restoration c 3.6 Excavation for roa including cutting a accordance with re the embankment le Excavation	harges PW	VD/SH/NH soil with hydr g in tippers, tr ts of lines, gra thin all lifts a	ding straight plinth levelT Total Q Total Q raulic excava rimming bott ades and cros nd lead upto	ening, cuttin Thermo - Med uantity in king uantity in king ator of 0.9 cu tom and side ss sections, a 1000m	g, bendin chanically 60.000 000 20.000 000 <b>ilogram</b> m bucket slopes, in	1.500 g, placing y Treated 129.060 216.000 345.060 345.060		

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	SH/NH TC	1	65.000	0.800	0.500		26.000			
	Total						362.000			
				To	tal Quantit	y in cum	362.000			
4.002	4.2.A.1									
	Construction of granular sub-base by providing graded material, spreading in layers with a motor grader on a prepared surface, mixing by mix in-place me rotavator at OMC, and compacting with a vibratory roller to achieve the desi density, complete as per clause 401. Grading-III -For lower sub-base - Mix in Method									
	GSB									
	SH/NH Berm	1	800.000	0.800	0.200		128.000			
	PWD Berm	1	600.000	0.800	0.200		96.000			
	SH/NH CC	1	400.000	0.800	0.200		64.000			
	SH/NH TC	1	65.000	0.800	0.200		10.400			
	Total		68				298.400			
			14.123	To	tal Quantit	y in cum	298.400			
4.003	4.12	_		and the second se						
	Providing, laying, Macadam specific mechanical mix pl layers with paver i with vibratory roll	ation inclu ant carria n sub- bas	uding premix ge of mixed l se / base cour	ing the Mate Material by t rse on well pr	rial with wa	ter at OM laying in	C in uniform			
	WMM	1	65.000	0.000	0.000		10,400			
	SH/NH TC	1	65.000	0.800	0.200		10.400			
	Total						10.400			
				To	tal Quantit	y in cum	10.400			
4.004	5.1.a Providing and app of granular Base ir 0.70 - 1.0 kg/sqm Primer Coat	icluding c	clearing of ro	ad surface an						
	primer coat	1	65.000	1.500			97.500			
	Total						97.500			
				Тс	otal Quantit	v in sam	97.500			
4.005	5.2.b				<u> </u>	, » <b>q</b>				
1.000	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		T							
	BMBC	1	65.000	1.500			97.500			

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	Total						97.500			
				Te	otal Quantit	y in sqm	97.500			
4.006	5.3.2.a									
	Providing and laying bituminous macadam with 80-100 TPH hot mix plant pro- an average output of 75 tonnes per hour using crushed aggregates of specified g 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 comp For Grading II - (19 mm nominal size)									
	BM	[								
	BM	1	65.000	1.500	0.050		4.875			
	Total						4.875			
				Тс	otal Quantit	y in cum	4.875			
4.007	5.6.2.a									
	an average output premixed with a b transporting the ho sensor control to t wheeled, vibratory	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		OF PUBLIC	WORKS						
		1	65.000	1.500	0.030		2.925			
	Total						2.925			
				To	otal Quantit	y in cum	2.925			
4.008	5.8.a									
	Providing and layi stone aggregates o prepared surface a 19 mm nominal ch	f specifie nd rolling	d size on a la with 8-10 to	yer of bitum	inous binder	(VG 30)	laid on the			
	Seal coat									
	Premix	1	25.000	1.000			25.000			
	Total						25.000			
				Т	otal Quantit	y in sqm	25.000			
4.009	12.4 Plain cement conc 40 mm nominal si vibration including	ze mechai	nically mixed							
	PCC	[				I				
	SH CC	1	400.000	0.800	0.100		32.000			
	Total						32.000			

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
				Τα	otal Quantity	y in cum	32.000		
4.010	12.8.B.1								
	Plain/Reinforced C Technical Specific	Cement Co ations P	oncrete in Op CC Grade M	en Foundatie 20	on complete	as per Dra	awing and		
	RCC								
	CC for restoration	1	400.000	0.500	0.050		10.000		
	Total						10.000		
				Τα	otal Quantity	y in cum	10.000		
5	Road Restoration	Charges 1	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	400.000	0.600	0.400		96.000		
	Concrete road	1	600.000	0.500	0.350		105.000		
	Total		OF PUBLIC	WORKS	ANAGEMENT		201.000		
				Та	otal Quantity	y in cum	201.000		
5.002	4.1.A.1								
	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	400.000	0.600	0.200		48.000		
	Concrete road	1	600.000	0.500	0.200		60.000		
	Total						108.000		
				То	otal Quantity	y in cum	108.000		
5.003	4.9								

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	Wet Mix Macadar aggregate to wet n water at OMC in r site, laying in unif compacting with s density including 1 400.11 & 400.12 a with 1 km lead	nix macad nechanica orm layer mooth wh lighting, b	am specifica l mixer (Pug s in sub-base leel roller of parricading an	tion includin Mill), carria base course 80 to 100kN nd maintenan	g premixing ge of mixed on a well pro- weight to ac- ace of diversi	the material l material l epared su hieve the on, etc as	rial with by tipper to b-base and desired per Tables			
	WBM									
	Tar Road	1	400.000	0.600	0.200		48.000			
	Total						48.000			
				Тс	otal Quantit	y in cum	48.000			
5.004	5.1.1a									
	Prime Coat :- Low emulsion (SS-1) o surface and sprayi per Technical Spea prime coat	n prepareo ng primer	d surface of g at the rate o	granular base	including cl	eaning of	road			
	Tar Road	1	400.000	1.000			400.000			
	Total	1	400.000	1.000			400.000			
				Т	atal Quantit	, in com				
5.005	5.2.3a		OF PUBLIC	IM FOR THE M	otal Quantit	y m sqm	400.000			
	Tack Coat Provid emulsion distribut surfaces treated with Specification Clau tack coat	or at the rational or at the rational tension of the second second second second second second second second se	oplying tack ate of 0.25 to	coat with Bit 0.30 kg per	sqm on the p	prepared g	granular			
		1	400.000	1.000			400.000			
	Total						400.000			
				Te	otal Quantit	y in sqm	400.000			
5.006	5.9.1.2a					<b>·</b>				
	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	[]								
		1	400.000	1.000			400.000			
	Total						400.000			

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
				Т	otal Quantit	y in sqm	400.000		
5.007	5.12.A.3.2a								
	Seal Coat - Manua sealing the voids in fall using Type A, By Manual Means	n a bitumi Type B a	nous surface nd Type C as	laid to the sper Technic	pecified leve al Specificat	ls, grade a	and cross		
	Seal coat								
		1	400.000	1.000			400.000		
	Total						400.000		
				Тс	otal Quantit	y in sqm	400.000		
5.008	11.4.3.1								
	Providing concrete drawings and tech M 20 (i) Nominal	nical spec	ifications Cla						
	cement concrete	1	600.000	0.500	0.150		15.000		
	Tatal	1	600.000	0.500	0.150		45.000		
	Total			T	4-10	•	45.000		
6		1			otal Quantity	y in cum	45.000		
6 6.001	Construction of st 2.31	eel storag		uruvilacity	ANIAGENEAT				
0.001	Clearing jungle ind saplings of girth up removal of rubbish	p to 30 cn	n measured a	t a height of	1 m above g	round leve	el and		
	Clearing jungle								
		1	9.000	9.000			81.000		
	Total						81.000		
				То	otal Quantit	y in sqm	81.000		
6.002	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								
	For ring beam								
	for ring beam	1	3.14*5.82 6	0.450	0.450		3.704		
	cutting and levelling	1	9.000	9.000	0.750		60.750		
	Total						64.454		
				To	otal Quantit	y in cum	64.454		
6.003	4.1.8								

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	Providing and layi of centering and sh sand : 8 graded sto	uttering -	All work up	to plinth lev						
	PCC 1:4:8									
	For ring beam	1	3.14*5.82 6	0.450	0.200		1.646			
	Total						1.646			
				То	otal Quantity	y in cum	1.646			
6.004	5.2.2									
	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up tot floor five level excluding cost of centering, shuttering, finishing and reinforcement :1:1.5:3(1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)									
	RCC 1:1.5:3									
	RCC 1:1.5:3	1	3.14*5.82 6	0.450	0.450		3.704			
	Total		- Alto	NO CARDO			3.704			
				Т	otal Quantity	y in cum	3.704			
6.005	5.9.3									
	Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform									
	Form work									
	Outer area	1	3.14*6.27 6		0.450		8.868			
	Inner area	1	3.14*5.37 6		0.450		7.596			
	Total						16.464			
				To	otal Quantit	y in sqm	16.464			
6.006	5.22.6									
	in position and bin	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								
	@120 kg/cum									
		3.704				$\begin{array}{c} 120.00\\0000\end{array}$	444.480			
	Total						444.480			
				Total <b>Q</b>	)uantity in k	ilogram	444.480			
6.007	OD124210/2022-2	.023								
	Supply of Sand inc charges as per the direction of de	U	0	ding, transpo	rtation and o	ther incid	ental			

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Sand filling						
		3.14	(5.376*5. 376)/2		0.150		6.806
	Total						6.806
				Т	otal Quantity	y in cum	6.806
6.008	OD124236/2022-2	2023					



	Specification	No	Length	Width	Depth	Cf	Quantity		
	Supply, installation manufactured steel thickness of 0.6	and com	missioning o Water Tank h	f a pre-engin aving a capa	neered, pre-fa	bricated, LL(1Nos	factory )		
	mm, in multiple la layered	yers as re	quired for the	e capacity an	d height of t	he tank ar	nd multiple		
	PE sheet/membran the Liner	e for the	inner contain	ment liner. T	The Tank She	ell / Body			
	material shall be m standards. The Tar outlets, drains								
	and fittings, overflow and drain, high and low water level indicators. All connections to the								
	tanks shall be with flanged or threaded nozzles, placed to the KWA water mains TANK ROOF								
	:The roof of the tank shall be of corrugated Galvalume sheet steel and shall be domed, with								
	heavy- duty Hot-dip Galvanized truss frame for support, and capable of supporting 4-5 persons								
	for maintenance and cleaning and tank shall have an access hatch with cover, on the roof, for								
	operation and Maintenance TANK COVER : Tank covers shall be of approved galvanized								
	vermin proof construction. Roof ends shall be fitted with suitable vermin-proofing tape or other								
	material, to prevent ingress of dust and foreign objects. Covers shall be firmly fixed to the top edge of the tank with galvanized bolts and nuts. LADDERS :Tanks shall be provided								
	with Hotdip Galvanized ladders appropriately desig with relevant								
	spill level, air gap and bolts	and overf	low requiren	nents relative	to Effective	Capacity	. All nuts		
	used for the panels hardened.	shall be	a minimum o	of 12mm size	and hot-dip	galvanize	ed/Case		
	The tank shall have at the top,	e a circula	ar angle fixed	around the	total circumf	erence of	the tanks,		
	of minimum 2 mm	thicknes	s. Tanks shal	l be properly	flushed out	with clea	n water		
	prior to being brought into servic	e TANK	DIMENSIO	NS: The dim	ensions of th	e Tank sł	nall be of		
	5.826 m in diameter and 5.7 m	n in heigh	t DESIGN L	IFE: The tan	ks shall have	e a design	life of 40		
	years. TANK CONNECT	FIONS: S	tandard desig	gn valve outle	et connection	n : i) Suita	able		
	Flanged valve ii) Overflow conne	ection inc	luding an Int	ernal approve	ed bell-mout	h shaped	bends to		
	maximize the overflow capac of the	tity. One	no. 100 mm,	iii) One (1) s	scour drain o	utlet from	n the floor		
	tank with isolation	valve. O	ne No. 100m	m.TANK LI	NERS:Tank	liners sha	ll be		
	purposedesigned and manufactured ANSI/NSF 61 - 20								

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity	
	furnished by the m	anufactu	er of the tan	s. Tank line	rs shall: i) B	e factorv		
	manufactured to or				,	J		
	construction, fabri	cated fror	n multi-layer	PE sheet, ce	rtified for po	otable drii	nking water,	
	to		-		-		-	
	(ANSI/ NSF 61) a	nd duly U	V Stabilized	. ii) Be of PE	E (polyethyle	ne) in mu	lti-layer	
	construction							
	for strength, reinfo	orced with	woven scrin	n industrial fa	abric to prev	ent elong	ation and	
	enhance tensile strength. The total liner material thickness shall be no less than 0.6 mm thick. The tensile strength shall not be less than 2266 N (warp) and 2495 N (weft) and heat sealing strength of							
	2056 N v) All the liner welded lap joints shall be strengthened with Metallocene							
	encapsulating							
	tape welded over the overlap. vi) The Metallocene tape shall cover and protect the							
	exposed							
	material at the edges of the liner joints to further prevent the ingress of water into the							
	scrim. vii)							
	Liners shall be positively and continuously attached to the top outer edge of the circumference of the tank to prevent entry of water from the runoff from the roof structure. viii) All							
	liners on	aight chal	ll have a cont	in to the interm	madiata linar	annort	dagianad	
	tanks over 2m in h out of nylon	eight sha	ii nave a com	muous men	neurate inter	support	lesigned	
	(or other material)	cord arou	und the circu	nference of t	he tank at v	ertical int	ervals	
	corresponding	coru, arot		M FOR THE M			C1 V d15	
	to the level of each	n ring. ix)	The interme	diate liner su	pport cords s	shall be fi	rmly	
	secured to the	0 ,			11		5	
	steel shell at each	level, to p	revent stress	on the liner	welded joint	s, and the	reby	
	eliminate	~ ~						
	possibility of failu	re CORR	OSSION PRO	OTECTION.	The tank str	ructure sh	all have a	
	secondary		·····			<b>г</b> 11.	<b>f</b>	
	corrosion protection anodes, their	on system	using sacrifi	cial magnesi	um anodes.	I ne nume	er of	
	location around the	a tank and	the mass of	each anode a	shall be desid	med for a	node	
	replacement		i the mass of		shan be desig		liloue	
	frequency of five y	ears. The	e anodes shall	be installed	external to t	he tank a	nd concrete	
	apron							
	with their location	marked w	with a suitabl	y label-Cost	for Tank stee	el with 10	years	
	guarantee							
	includes shel l,Ste	el wall,ste	el domed roo	of,Zinc Alum	steel&	amp;39;,	Cost for	
	Poly ethylana infinity							
	ethylene infinity	o Fibro	ith food and	o plastics are	used for inc	ida conti-	na and	
	liner ,Geo syntheti Support Arrangem							
	ladder,Cost of	ents,COSI		a noms,aua	annents and	acc55011	es like steel	
	Fabricated nozzles	over flow	w nozzles and	l drain arrang	gements. Cos	st for HD	G nut and	
	bolts,Freight Char							
	Steel tank	,			0.11			
			152000.0				152000.0	
		1	132000.0				132000.0	
I		l	00				00	

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
	Total						152000.0 00		
				Tot	tal Quantity	in Litre	152000.0 00		
7	Demolition of exis	ting GLS	R at Kuruvila	acity					
7.001	15.9.2								
	Demolishing stone stacking of service metres lead as per	able mate	erial and disp	osal of unser	viceable ma	terial with			
	Demolishing stone rubble masonry								
	Demolishing stone rubble masonry	1	7.300	6.300	0.500		22.995		
	Total						22.995		
	Total Quantity in cum								
7.002	15.2.2		A.K	5/AD					
	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 manually(pcc)								
	Demolishing cement concrete manually	1	7.300	6.300	0.200		9.198		
	Total 9.								
				То	otal Quantit	y in cum	9.198		
7.003									
	Disposal of building rubbish/ malba/ similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved								
	Disposal of buildi	ng rubbis	h						
	Disposal of building rubbish	1	22.995				22.995		
	Total						22.995		
				Τα	otal Quantit	y in cum	22.995		
7.004	15.58								
	Demolishing R.C. locations and disposerviceable and un	osal of dis serviceab	smantled mat	erials up to a	lead of 1 ki	lometre, s	tacking		
	Demolishing R.C		7 200	2 000	0.000		0.700		
	long walls short walls	2	7.300 6.300	<u>3.000</u> 3.000	0.200		8.760		
	short walls	2	0.300	3.000	0.200		7.560		

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity				
	roof slab	1	6.300	7.300	0.200		9.198				
	Beam	1	6.300	0.250	0.500		0.788				
	Total		26.306								
				To	tal Quantit	y in cum	26.306				
8	Renovation of exis	sting tank	in kuruvilaci	ity							
8.001	2.31										
	saplings of girth up removal of rubbish	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared									
	Clearing jungle	1	0 (10	0.000			70 7 (2)				
	Clearing jungle	1	9.610	8.300			79.763				
	Total 79.										
	= .			То	otal Quantit	y in sqm	79.763				
8.002	14.78 Cleaning of under										
	including disposal cleaning shall cons pumping & bottom of the sump shall t with water. (iii) Cl treated surface sha from the surface. ( as per direction of	sist follow n shall be hen scrub nlorination Ill be dried v) Finally	ving operation cleaned of sl bed thorough n of RCC inter d using air jet the surface st	ns:- (i)Tank s it and other c ily with wire ernal surface tting and all l	shall be emp leposits. (ii) brush etc. an by liquid ch oose particle	tied of wa Entire sur nd pressur lorine. (i es shall be	tter by face area re washed iv) The removal				
	Cleaning of unde	r ground	•								
	Cleaning of base	1	8.100	8.100			65.610				
	Cleaning of walls	4	8.100	3.000			97.200				
	Total										
				Τα	otal Quantit	y in sqm	162.810				
8.003	15.3										
	Demolishing R.C. bars and disposal of Engineer -in-Char	of unservi									
	Demolishing R.C.	C. work n	nanually								
	wall surface	1	17.200	0.020	3.000		1.032				
	for manholes	4	0.300	0.300	0.200		0.072				
	Total						1.104				
				To	tal Quantit	y in cum	1.104				
8.004	5 21										

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
	Extra for providing 3.25 mm wide 1.6 sections in beams,	mm thick	weighing 3.	64 kg per sqi	n for encasi	ng or rolle	strands ed steel		
	Steel mesh for repairing concrete								
	base	1	8.100	8.100			65.610		
	wall	4	8.100	3.000			97.200		
	Total						162.810		
				Тс	otal Quantit	y in sqm	162.810		
8.005	5.9.2								
	Centering and shut thickness) includir	ttering inc	luding strutt d pilasters, b	ing, etc. and utteresses, pl	removal of f inth and stri	form for:W	Valls (any s etc.		
	Centring and shu	uttering							
	wall	4	8.025	3.000			96.300		
	Total		1				96.300		
			asi	Τα	otal Quantit	y in sqm	96.300		
8.006	5.33.2		1940	99762					
	excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer - in-charge. Note:- Cement content considered in this item is @ 330 kg/ cum. Excess or less cement used as per design mix is payable or recoverable separately.All work above plinth level upto floor V level								
		1					1.000		
	base	1	8.100	8.100	0.075		4.921		
	wall	4	8.100	3.000	0.075		7.290		
	Total								
				Τα	tal Quantit	y in cum	13.211		
8.007	5.34.1								
	Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).								
	for M30								
	1	13.211					13.211		
	Total						13.211		
	Total Quantity in cum								
8.008	13.4.1								

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	12 mm cement pla	ster of mi	x:1:4 ( 1 cen	nent : 4 coars	se sand)		
	12 mm cement p	laster					
	12 mm cement plaster	4	8.025		3.000		96.300
	Total						96.300
				Т	otal Quantit	v in sqm	96.300
8.009	22.22						
	treatment plant, tu concrete into the d @0.80% (minimum higher as recommend concrete at site of 212-3R-2010 i.e. t with control concre crystalline admixtu 0.50mm. The work direction of the Er	RCC structures like basement raft, retaining walls, reservior, sewage & water reatment plant, tunnels / subway and bridge deck etc at the time of transporting of concrete into the drum of the ready-mix truck , using integral crystalline admixture @0.80% (minimum) to the weight of cement content per cubic meter of concrete) or higher as recommended by the manufacturer's specification in reinforced cement concrete at site of work. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90%, compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure. The crystalline admixture shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the Engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.					
	Admixture for Wa			ΚЦ			25.000
	1 Total	35	e-PLATFOR	M FOR THE M	ANAGEMENT		35.000 <b>35.000</b>
		_	OF PUBLIC		Total Quant	ity in ka	35.000
8.010	13.43.1					ny m kg	35.000
0.010	Applying one coat manufacture on w					brand and	
	Applying one coa	t of water	thinnable ce	ment primer			
	Applying one coat of water thinnable cement primer	4	8.025		3.000		96.300
	Total						96.300
				Т	otal Quantit	y in sqm	96.300
8.011	14.1.1						
	Repairs to plaster under, including c plastering the surf dumping ground v	utting the ace of the	patch in prop walls comple	per shape, ra ete, includin	king out join g disposal of	ts and pre rubbish to	paring and o the
	Repair					0.0000	
	12 mm cement plaster	1	34.000		3.000	0.3000	30.600
	Total						30.600

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
				Te	otal Quantit	y in sqm	30.600			
8.012	13.44.1									
	Finishing walls with water proofing cement paint of required shade:New work (Two or more coats applied @ 3.84 kg/10 sqm)									
	Finishing walls with water proofing cement paint									
	Finishing walls with water proofing cement paint	1	51.600				51.600			
	Total									
	Total Quantity in sqm						51.600			
8.013	13.71									
	Lettering with black Japan pint of approved brand and manufacture									
	Lettering with black Japan paint									
	Lettering with black Japan paint	150	TA B	QAA.			150.000			
	Total						150.000			
	Total Quantity in per Letter per cm height						150.000			

C-PLATFORM FOR THE MANASEMENT OF PUBLIC WORKS