

Detailed Project Report on "Ujjain Underground Sewerage Scheme"

SUB-ESTIMATE NO : 04 Sewage Collection System and Pumping Machinery and Force main (Sewage Pumping) at Kamed									
MEASUREMENT & ABSTRACT SHEET									
S. No.	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
Sewage Pumping Station Civil Works									
Earthwork									
1	Earth work in excavation for pipe trench in all kinds of soil and WBM in area including drssing, watering and ramming and disposal of Excavated earth lead upto 50 meters and lift upto 1.5m, disposal earth to be leveled, neatly dressed. Excavation of DUG-WELL/SEPTIC TANK ETC.								
	Lift 0.0 to 1.5 m	Cum	1	0.785	1681.0	1.5	1980	129.10	255668
	(MP,UADD ISSR-12-13, Vol-I, P.No. 157 I.No.15.26.4)								
2	Excavation in hard soil/moorum-moorum mxed with boulder etc								
	Lift 1.5 to 3.0 m	Cum	1	0.785	1714.0	1.5	2019	230	464420
	Lift 3.0 to 4.5 m	Cum	1	0.785	1747.2	1.5	2058	255	524898
	Lift 4.5 to 6.0 m	Cum	1	0.785	1780.8	1.5	2098	279	585344
	(MP,UADD ISSR-12-13, Vol-I, P.No. 157 I.No.15.26.2 & 15.26.3)								
3	Earth work in excavation for pipe trench in all kinds of rocks in areas including dressing, stacking of useful material and disposal of unserviceable one up to 50m lead and lift up to 1.5m. Blasting prohibited (i.e. wedged and chiselled)								
	Lift 6.0 to 7.5 m	Cum	1	0.785	1814.8	1.5	2138	562	1201538
	Lift 7.5 m to 9.0 m	Cum	1	0.785	1849	1.5	2177	601	1308496
	Lift 9.0 m to 10.50 m	Cum	1	0.785	1883.56	1.5	2218	640	1419451
	(MP,UADD ISSR-12-13, Vol-I, P.No. 157 I.No.15.26.5 (b) & 15.26.6)								
							Total Excavation Qty	14689	
Sub Total For Earth Work									5759815
Stone Rubble Masonry									

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S. No.	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount	
4	Random rubble stone masonry with hard stone in foundation & Plinth including levelling up with cement concrete m-5 (Stone aggregate 20 mm) at plinth level with cm 1:6									
	(MP,UADD ISSR-12-13, Vol-II, P.No. 67 I.No.7.1	Cum	1	0.785	1319.585	0.45	466	2671	1245069	
RCC Works										
5	Providing and laying Plain/ Reinforcement concrete in sub structure or complete section including cost of form work staging / bracing and shuttering complete as per drawing and technical specification and as per relevant I.S standard (Height above average ground level) R.C.C. Garde M-30									
	(MP,UADD ISSR-12-13, Vol-I, P.No. 154 I.No.15.20 VI a,b & c)									
	Below G.L.									
	a) Beam	Cum	1	0.785	1319.585	0.6	621.52	5807	3609192.975	
	b) Raft Foundation	Cum	1	0.785	1319.585	0.3	310.76	5807	1804596.487	
	c) Vertical wall	Cum	4	41.2	6.75	0.3	333.72	5807	1937912.04	
	d) Vertical wall in front of inlet pipe	Cum	4	41.2	2	0.3	24.72	5807	143549.04	
	e) Vertical wall In front of Outlet pipe	Cum	4	41.2	2	0.3	98.88	5807	574196	
	f) Landing slabs	Cum	1	41.2	20.5	0.3	253.38	5807	1471378	
	g) RCC Slab Above Canopy	Cum	1	41.2	41.2	0.3	509.23	5807	2957110	
			Total Quantity					2152.22		
6	Providing and placing in position cold twisted or uncoated HYSD steel bar and hot rolled deformed steel reinforcement for R.C.C work i/c cutting, bending, binding etc. complete i/c cost of binding wire and watsge.									
	1.1 % of total of R.C.C. Qty	Kg	1	0.011	2152.22	7850	185844.09	55	10221425	
	(MP,UADD ISSR-12-13, Vol-I, P.No. 155 I.No.15.22 A									
Sub Total For RCC Work									22719360	
Super Structure										

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S. No.	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
7	Brick work with well burnt chimney bricks having crushing strength not less than 25 kg/cm ² and water absorption not more than 20% above plinth level including cost of form work. In Cement Mortar 1:6 Above 4.0 m height								
	Vertical wall (BBM) above GL 3m	Cum	4	41.2	0.3	3	148.32		
	Vertical wall for Canopy	Cum	4	41.2	0.3	4	197.76		
	Deduction for Door Shutter	-	1	1.5	0.25	2.5	0.94		
	Windows	-	2	1.2	0.25	1.5	0.90		
	Net Qty						146.48	4373	640568
	(MP,UADD ISSR-12-13, Vol-I, P.No. 156 I.No.15.24 b & c								
Pumping Out Water									
8	Pumping out water caused by springs, tides or river seepage, broken water mains or drains or well or the like			Days	KL/Day				
	For SPS-1 6.5 m Dia	KL	1	30	144		4320.00	51	220320
	(MP,UADD ISSR-12-13, Vol-I, P.No. 151 I.No.15.7								
Plaster Work									
9	Providing internal cement plaster of 12 mm thick in single coat in cement mortar 1:4 without neeru finish to concrete or brick surfaces, in all positions including scaffolding and curing complete. Spec.No. : Bd.L.2a Page No.368								
	(MP DSR-12-13,bldg wk P.No.156, I.No.13.7.2								
	Inner side	Sqm	8	41.2		7	2307.20		
	Roof	Sqm		41.2	41.2		1697.44		
							Total Qty		4004.64
	Deductions								
	Rolling Shutter	Sqm	1	1.5	2.5		3.75		
	Window	Sqm	2	1.2	1.0		2.40		
							Deduction Qty		6.15
							Net Qty		3998.49
								133	531799

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S. No.	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
11	Providing neeru finish to plastered surface in all positions including scaffolding and curing complete. Spec.No.: Bd.L-10 Page No. 370.								
		Sqm	Qty Same as above				3998.49	22	87967
Sub Total For Plaster									619766
Scaffolding,Wall bearing,Doors & Window									
12	Providing and applying washable oil bound distemper of approved colour and shade to old and new surfaces in two coats including scaffolding preparing the surfaces etc. complete.Bd-P.5 Page no.413.								
	(MP DSR-12-13,bldg wk P.No.161, I.No.13.41.1	Sqm	8	41.2	4		1318.40	37	48781
13	Providing & fixing ball bearing above rolling shutter								
	(MP DSR-12-13 bldg wk, P.No. 113, I.No.10.7	Each	10				10.00	595	5950
14	Providing and fixing pressed steel doors, windows and ventilators confirming to IS:4351 manufactured from commercial mild steel sheet of 3.15 mm thickness and applying a coat of approved steel primer after a pre treatment of the surface as directed by engineer incharge.								
	Windows	Sqm	2	1.2	1.0		2.40	1473	3535
	(MP DSR-12-13 bldg wk, P.No. 113, I.No.10.14.5								
Sub Total for Scaffolding, Wall Bearing, Door & Window									58266
Filling for Sewage Pumping Station, Exhaust Fan									
15	Filling available excavated earth in trenches, plinth sides of foundation in layers not exceeding 20cm. In depth including consolidation of each layer by ramming watering, lead up to 50m and lift up to 1.5m in all kinds of soils								
	Earth work excavation Qty	Cum					14689.09		
	Deduction of SPS-1 Volume	Cum	1	0.785	1697.44	10.35	13791.28		
			Net Qty				897.82	29	26037
16	Exhaust Fan Rate Lump Sum	No.	5					10000	50000

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S. No.	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
Sub Total For Filling and Fan									76037
RCC Works for Stair Case									
17	Providing and laying Plain/ Reinforcement concrete in sub structure or complete section including cost of form work staging / bracing and shuttering complete as per drawing and technical specification and as per relevant I.S standard (Height above average ground level) R.C.C. Garde M-30	Cum					4.80	6071	29141
	Height above 10m								
Total For SPS Civil Work									31368341
Pump									
22	Providing, erecting,testing and commissioning at (As per Quotations collected from Market)								
	Two Pumps each suitable to pump sewage peak	No.	2				2.00	7200000	14400000
	Three Pumps each suitable to pump sewage peak	No.	3				3.00	14000000	42000000
	Providing and fabrication of common pipes	m		32			32	3102	99264
	Providing and erection of suitable control panel for	No.	2				2.00	550000	1100000
	Provide pump for dewatering, 3 Pumps (Required and dewater from dry well)								
	2HP	No.	1				1.00	30000	30000
	3HP	No.	1				1.00	45000	45000
	5HP	No.	1				1.00	750000	750000
Total Cost for Pumps									58424264
FORCE MAIN (inlet of STP, 1200 mm Dia , MS Pipes and length of 2500 m)									

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S. No.	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
1	Supplying spirally welded/ERW/SAW/fabricated M.S. pipes (commercial Quality) including procurements of plates, gas cutting to required size rolling,tack welding assembling in suitable lengths to form pipes, welding on automatic welding machine and forming 'V' edge on both ends of pipes including all taxes (central and locl), railway freight, insurance unloading from railway wagon, loading in to truck, transport to stores/site, unloading,stacking, etc, complete as per IS-3589 and IS-5504 as applicable as per specification (NO negative tolerance in thickness is permissible).								
	1200 mm dia and 10mm Thick MS Pipes	RMT	1	2500			2500	17960	44900000
	MJP (2012)- Nagpur Region page no. 177 item No. 2 sub item u								

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S. No.	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
2	Providing and making inner cement mortar lining to M.S. pipes with mechanical devices in cement mortar 1:1 proportion, including cost of all material,labour,special sand required, machinery, power generation, all equipment and taking necessary acces opening and manholes, cut at suitable intervals as directed by Engineer-In-Charge and rewelding the same after done with doubler plates pipes including necessary excavation, refilling concrete braking and remaking if any, braking guniting and remaking the same, repainting where even required with epoxy paInt in three coats, all dewatering including emptying the pipe line anmd refilling the same after done with (water to be supplied by department free of cost within 5Km lead at fixed point and all other arrangemnet to be done by agency), including carrying out" C" value performance test of pipe line , complete job as per the direction of Engineer-In-Charge.								
	12mm thick for pipe upto 700mm diameter	Sq m	1	2500	0.785	1.44	2826	377	1065402
	MJP (2012)- Nagpur Region page no. 205 item No. 22 sub item ii								
Mechanical Arrangement									

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S. No.	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
3	Providing and applying with mechanical arrangement 1:3 proportion cement sand gunite,40 to 50 mm thick to M.S. pipe surface under 2.1 Kg. per sqcm to 2.80 Kg per sqcm. Pressure including removing the loose materials as directed by Engineer-in-charge and including scrapping the surface with wire brushes,degreasing,cleaning by compressed air and providing,ficing BRC fabric no. 14 as reinforcement ,curing for 21 days,disposing off the rebound materials within a lead of 50M,etc complete as directed by Engineer-in-charge.	Sq m	1	2500	0.785	1.44	2826	416	1175616
Excavation									
4	Excavation in hard soil/moorum-moorum mixed								
	0-1.5 m Lift	Cum	1	2500	2.22	4.07	11326	230	7667512
	1.5-3 m lift								
	Excavation in hard rock including 50m lead Blasting								
	0-1.5 m Lift	Cum	1	2500	2.22	4.07	11326.00	230	
	1.5-3 m lift								
(MP,UADD ISSR-12-13, Vol-I, P.No. 157,									
Filling									
5	Filling with moorum for pipe bedding or over the								
	Excavated Quantity						22651		
	Deductions			2500	0.785	1.44	2826		
	(MP,UADD ISSR-12-13, Vol-I, P.No. 151, I.No.15.1)	Cum	1	2500			19825	625	12390625
6	Providing and laying Plain/ Reinforced cement								
	P.C.C. M-25 (height up to 5m)			2500	2.22	0.2	1110	5668	6291480
	(MP,UADD ISSR-12-13, Vol-I, P.No. 153,								
	Construction of granular sub-base by providing	Cum	1	2500	2.22	0.15	833	614	511155
	Grading-II Material								
	I.S.S.R Vol-III Road and Bridge Page No. 30 (4.1)								
Sub Total For Filling									19193260
Valves									

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S. No.	Description of Item	Unit	No	L	B	D	Qty	Rate	Amount
7	Provisions for valves								74001
	Total For Force Main								74075791
	Total For Sewage Collection System and Pumping Machinery and Force main (Sewage Pumping) at Kamed								163868396