

Bill of Quatities of Sub Work No. 1 (Roads)			
Sr.No. / HSR No.	Description	Quantity	Unit
		Roads	
1	Earth work in embankment including providing good earth transportation from source to site, laying in layer, rolling & watering & compaction to the desired specification complete as per MORTH specifications for road & bridge works Clause - 305 for all leads and lifts	16199	cum
2	Earth work in Excavation in ordinary soil exclusive of copensation of earth involving an average through upto 2 mtr and an average lift upto 0.5 mtr, including breaking of clods, loading, unloading & transportation with machnical means with in 1 Km lead.	5888	cum
3	Cleaning and grubbing ROW of roads including uprooting vegetation, grass, brush shurbs, springgs and trees removal of stumps, disposal of unserviceable material and staking of serviceable materials with all leads and lifts by mechanical means and as per MORTH specification Clause 201	135216	sq mtr
4/ HSR 24.1	Preparation of sub grade , including trenching, rough dressing of spoil, final dressing of earth, to given levels and camber, watering, rolling with road roller, and compacting the bed.	68939	sq mtr
5	Providing & Laying Granular Sub base and the total width of roads including spreading with motorgrader on the prepared surface mixing with rotavator and compacing with vibrating roller complete as per clause 401	10341	cum
6	Providing Laying, spreading and compacting graded stone aggregates as per Table 400-11 to Wet Mix Macadam specifications - 406 MORT&H, IV Revision, including premixing the carriage the mixed materials with water to OMC in Machnical mixer (Plug Mill) carriage of mixed material by tipper to site, laying in uniform layers using paver in subbase / base course / base course, on a well prepared sub base and compacting with power and vibratory roller to achieve & desired density, including cost of materls complete	10052	cum
7	Providing, laying & compaction of D.B.M. (Dense Bitumenous Macadam) 75 mm thick with grading 2 as per table No. 500.10 and minimum 4.5% bitumen of 60/70 grade as per MOSRT&H specifications for road & bridge works 2001 (Revision IV) clause. 507.1 to 507.8 for all leads & lifts etc complete in all respects to the satisfaction of the Engineer in charge	942	cum

8	Providing, laying & compaction of D.B.M. (Dense Bitumenous Macadam) 50 mm thick with grading 2 as per table No. 500.10 and minimum 4.5% bitumen of 60/70 grade as per MOSRT&H specifications for road & bridge works 2001 (Revision IV) clause. 507.1 to 507.8 for all leads & lifts etc complete in all respects to the satisfaction of the Engineer in charge	2597	cum
9	Providing & Laying Bitumen concrete 40 mm thick as per item No. 509.1 to 509.8 of MORTH Specification 2001 (4th revision) with minimum 5% bitumen content for grading No. 2 of table No. 500.18, filler cement / line as per approved mix design & to the requirement to the specification including rolling etc complete	502	sq mtr
10	Providing & Laying Semi dense bituminous concrete 25 mm thick as per specification 501.8 to 508.8 of specification for road & bridge works published by Indian Road Congress / MORTH specifications 2001 (4th revision) on a previously prepared base with minimum of 5 % bitumen content of 60/70 grade, 2% filler (cement as per approved mix design and to the requirement of the specifications for grading No. 2 of table 500.15 including rolling etc. Complete in all respect	1240	sq mtr
11	Providing & Fixing kerbs & channels of C.C. M-20 grade as per standard size on both sides of 90 m wide & 45 m and on one side of the service road including back filling etc. complete in all respects.	10356.00	mtr
12	Length of Boundary Wall as per Design & Drawings No. BW- 1	3456.78	mtr
13	Providing & Fixing Metallic Main Entry Gates including cost of masonry and all other suitable arrangement of fixing the gates as per drawings	4.000	No.

Bill of Quatities of Sub Work No. 2		Water Supply	
SUB HEAD NO. 1		Source Generation	
Sr. No.	Description	Qty.	Unit
1	Boring of tubewells having minimum of 450 mm dia with depth of 70 mtr including providing & fixing 200 mm inside dia V - wire Screen of stainless steel of aproved make, blind pipe of MS confirming is IS: 3589 of 4.8 mm thick threaded and sockted as per approved design including cost of all fitting and clamps placed on the girder and coated with anticrosive paint of approved quality, including supply and installation of 12.5 BHP pumping set, GI coloumn pipes, panal board and all other electrical apprutenances to run the tubewell, making provision for the earthing, cost of panal baord etc complete in all respect upto delievery pipe lines including the cost of S valves, scour valves and non return valves etc.	8	Nos.
2	Providing & Installation of Generator Set of Standard make 20 KVA capacity to run the tubewell fixed with the conapy and plateform including cost of change over switch etc complete in all repect.	8	Nos.

Bill of Quatities of Sub Work No. 2		Water Supply	
SUB HEAD NO.2		(Water Works)	
Sr. No.	Description	Qty.	Unit
1	Construction of Boosting chamber of sizes 8m x 4 m & 6mx 4 m as per design with 5 m clear height including foundations, coloumns retaining walls floor slabs, stair case etc complete including fixing of ventilators doors and windows exchosts fans electrical works monorail of required sizes for gantry, plain protection, water proofing etc including plastering, whightwashing, internal & external paints, distempering complete in all respect	56	sqmtr
2	Providing & Fixing Gantry for 3 MT capacity including all ancillary works	1	No
3	Construction of RCC sump well of suitable design and size.	1	Nos.
4	Construction of RCC Under Ground Clear Water Storage Tank including inlet, outlet & overflow	1489	KI
5	Providing errection and commissioning of centerfigual type vertical split casing pumps for operation, AC supply capable of giving 45 LPS discharge with a head of 40 mtrs and having a motor of 60 BHP including motor electric cable earthing and other required accessories etc complete in all respect 3No. Proposed and 1 No. stand bye	4	each

Bill of Quantities of Sub Work No. 2		OHSR	
SUB HEAD NO.3			
Sr.No. / HSR No.	Description	Qty	Unit
1	Construction of RCC OHSR of 500KL capacity with 25 m staging height of standard design of Public Health/HUDA including cost for providing and fixing of D.I. pipe including Supplying & Fixing in position including clamping etc. following dia. DI Double flanged class K9, inlet, outlet, overflow or scour pipes., providing & laying DI Standard specials of Class K12 including jointing to pipes and fittings, complete as required for all sizes and degrees and CI Sluice Valves with wheel & cap complete with bolts, nuts, rubber instertions etc. of class PN-1 as per specifications.	500	Kl

Bill of Quatities of Sub Work No. 2		Generating sets, Clorination & Water Works Campus	
SUB HEAD NO.4			
1	Providing & Installation of Generating Set of Standard make 125KVA capacity to run the tubewell fixed with the conapy and plateform including cost of change over switch etc complete in all repect.	1	No.
2	Providing & Fixing of Automatic cholorination for disinfection of pipe lines in each boosting staions	1	Nos.
3	Development of campus of water works including construction of approach roads, development of lawns plantation etc complete at Boosting Station	1	No
4	Construction of Staff Quarter as per standard design and drawing	1	each
5	Construction of boundary wall for water works (BW-1)as per design and drawing	245	Mtr
6	Construction of . Gates at water works including security hut.	1	Nos.
7	Provision for development of lawn of water works, footpath inside and plantation	1	Nos.
8	Providing and installation of Lighting poles on the boosting station including cost of wiring and fittings etc.	20	Nos.

Bill of Quantities of Sub Work No. 2						Water Supply	
Sub Head No. 5						Distribution System & Rising Main	
Sr.No. / HSR No.	Description					Qty	Unit
1 / 6.8(a)	Excavation for pipe lines running under pressure in trenches and pits, in open areas, where disposal of surplus earth is done along with the alignment and restoration of unmetalled or unpaved surface to its original conditions, in ordinary soil. a) without timbering and shoring upto 1.5 metres depth						
	Dia of Pipe	Length of Trench	Width of Trench	Depth of Trench	Quantity of Earth Work		
	mm	Mtrs	Mtrs	Mtrs	Cum		
	For Distribution						
	100	6126	0.55	1.00	3369		
	150	1928	0.60	1.10	1272		
	200	1710	0.65	1.20	1334		
	250	486	0.70	1.30	442		
	300	22	0.75	1.30	21		
	For Rising Main						
	150	2696	0.60	1.10	1779		
	200	190	0.65	1.20	148		
	Total Qty					8345	Cum
2/ DSD rates + labour on HSR	Providing, stringing, cutting and jointing D.I. pipe (Class K-7) Zinc coated and along with bitumen coating outside the pipe line and cement lining inside						
	Pipe Size						
	(For Distribution)						
	100 mm id					6126	Mtr
	150 mm id					1928	Mtr
	200 mm id					1710	Mtr
	250mm id					486	Mtr
	300mm id					22	Mtr
	For Rising Main						
	150 mm id					2696	Mtr
	200 mm id					190	Mtr
	Total						

3/ NS Recommendation of committee	Providing and fixing cast iron double flange sluice valve PN 1.6 marked with IS: 14846 including cost of all joint of material, carriage, loading, unloading, stacking, handling etc complete in all respect of the satisfaction to the Engineer - in charge.		
	100 mm id	54	Nos.
	150 mm id	16	Nos.
	200 mm id	15	Nos.
	250 mm id	5	Nos.
	300 mm id	1	Nos.
4/NS	Providing and fixing Fire Hydrants with fire sand post ISI marked conforming complete in all respects with water filling post.	11	Nos.
5	Construction of Brick masonry Haudi for Sluice Valves & Fire hydrant including surface boxes complete as per Public Health Standard	102	Nos.
6	Provision for indicating Arrow Plates for Sluice valve & Fire hydrant	102	Nos.
7	Providing and fixing C.I. Double Air Valves marked with IS : 14845 including carriage, loading, unloading, stacking, handling, re-handling etc., drilling, tapping, screwing in valves connections complete in all respects to the satisfaction of Engineer-in-charge (as per HSR item 28.13 with C.P. nill) 100mm i/d.	1	Nos.
8	Provision for Lawn Hydrant	33	Nos.

Bill of Quantities of Waster Water / Sewerage								
Sub Work No. 3								
Sub Head No. 1							Sewerage Scheme	
Sr. No.	Description						Quantity	Unit
1 / 6.10-6.12 Note (i)	Excavation of trenches in streets, lanes or in open areas for storm sewer, sewers running by gravity and manholes to full depths as shown in drawings including shoring, timbering of poling boards, frame system type, dressing to correct sections and dimensions, according to templates and levels, dewatering, provision for diversion of traffic, cutting trees and bushes, etc. night signals, profiles pegs, sight rails, boning rods, crossing over trenches for access to the houses, watching, fencing etc., fixing and maintenance of caution boards, refilling of trenches, watering of refill, in 15 cm layers, ramming and restoration of unmetalled or unpaved surface to original condition and removal of surplus soil from site of work upto a lead of 1 Km in ordinary soil (a) for depth of excavation not exceeding 3 mtrs below ground level							
	For Depth upto 3 Mtrs							
	Pipe Size	L	W	D	Qty			
	200 mm i/d	#REF!	0.71	2.76	#REF!			
		#REF!	0.41	0.175	#REF!			
	200 mm i/d	940	0.71	2.76	1854			
		940	0.41	0.175	68			
	200 mm i/d	5935	0.71	1.30	5526			
		5935	0.41	0.175	430			
	250 mm i/d	1276	0.77	2.00	1967			
		1276	0.47	0.20	118			
	300 mm i/d	176	0.95	2.96	496			
		176	0.55	0.25	24			
	300 mm i/d	566	0.95	2.54	1363			
		566	0.55	0.25	78			
	Sub Total						#REF!	cum
	FOR MANHOLES as per statement							
	(a) for depth of excavation not exceeding 3 mtrs below ground level							
	200	365	2.19	1.59	243.00	308422		
	200	52	2.19	1.59	34.67	6277		
	200	453	2.19	1.59	301.97	476267		
	250	89	2.19	1.59	59.60	18553		
	300	12	2.19	1.59	7.67	307		
	300	25	2.19	1.59	16.63	1445		
	Sub Total						502850	cum

2 / NS Base of HSR additional items 29.40(A) -19	Providing salt glazed Stone Ware Pipes grade 'A' in standard length of 600 mm each pipe marked with IS: 651 and their lowering, cutting, jointing and testing as described in HSR item No. 29.38, 29.39, 29.40 including jointing materials as well as carriage, loading, unloading stacking, handling, rehandling etc, complete in all respects to the satisfaction of Engineer in Charge.		
	Pipe Size		
	200 mm i/d connecting manholes	3888	Mtr.
	200 mm i/d (below water table)	964	Mtr.
	200 mm i/d (above water table)	6143	Mtr.
	250 mm i/d	1318	Mtr.
	300 mm i/d (below water table)	182	Mtr.
	300 mm i/d (above water table)	577	Mtr.
3	Lowering of water table from bottom of concrete upto sub soil water for laying of RCC pipe sewer		
	200 mm i/d (below water table)	964	Mtr.
	300 mm i/d (above water table)	182	Mtr.
4	Construction of Rectangular standard brick masonry manhole chamber in 1:5 cement stone dust mortar C.C. 1:2:4 in benching, 12mm thick cement stone dust plaster water tight 1:2 cement stone dust mortar with a floating coat of neat cement and finished with two coats reinforced cement concrete slab with supplying and fixing heavy duty SFRC manhole cover & frame and PVC step complete. of size 900mm x 1500mm		
	Size	Nos.	
	200 mm i/d (below water table)	52	Nos.
	200 mm i/d (above water table)	453	Nos.
	250 mm i/d	89	Nos.
	300 mm i/d (below water table)	12	Nos.
	300 mm i/d (above water table)	25	Nos.
5	Construction of Lamp Holes	243	Nos.
6	Erection of RCC ventilating column having minimum 200mm i/d and height 11.0 m above ground level including cap, cowl or wire dome etc. complete including carriage fixing and setting the same in position and embedded in foundation blocks	#REF!	Nos.

SUB HEAD NO 2 (Recycling of Treated Water)		(2.1) Structure at Boosting Station	
Sr. No.	Description	Qty.	Rate
1	Construction of Boosting Station suitable for the pumping machinery and D.G. set.	1	Nos.
2	Construction of RCC sump channel of suitable design and size.	1	Nos.
3	Construction of RCC Under Ground Water Storage Tank including inlet, outlet & overflow arrangement.	300	KI
4	Providing & Installing Treatent Units ,Two modules of 300 cum/day	2	Nos.
5	Providing and installing of Pumping set with electric driven slip ring motor complete in all respects.	2	each
6	Providing and fixing of Cubical type Control Panel including cost of equipment for incoming and outgoing feeder etc.	2	each
7	Providing and installation of Generating set of 25KVA capacity to run the above installation.	2	each

SUB HEAD NO 2 (Recycling of Treated Water)					(2.2) Distribution System	
Sr.No.	Description				Qty.	Unit
1 / 6.8(a)	Excavation for pipe lines running under pressure in trenches and pits, in open areas, where disposal of surplus earth is done along with the alignment and restoration of unmetalled or unpaved surface to its original conditions, in ordinary soil. a) without timbering and shoring upto 1.5 metres depth					
	Dia of Pipe	Length of Trench	Width of Trench	Depth of Trench	Quantity of Earth Work	
	mm	Mtrs	Mtrs	Mtrs	Cum	
	Phase - I					
	100	2857	0.55	1.15	4176	
	150	1728	0.60	1.15	1192	
	200	21	0.65	1.20	16	
	Phase - II					
	100	3889	0.55	1.10	2353	
	Sub				7738	7738 Cum
2	Providing, stringing, cutting and jointing PVC Pipe of 6kg / cm ² pressure complete in all respect					
	Phase - I					
				100mmid	2857	Mtr
				150mmid	1728	Mtr
				200mmid	21	Mtr
	Phase - II					
				100mmid	3889	Mtr
3 / New HSR No. 28.14	Providing and fixing C.I. Sluice Valves Type IVC Heavy duty ISI marked PN 1.6 rating conforming to IS: 14846 complete in all respects.					
	Phase - I					
				100 mm i/d	20	Nos.
				150 mm i/d	6	Nos.
				200 mm i/d	3	Nos.
	Phase - II					
				100 mm i/d	10	Nos.
				Sub Total		
4	Providing and fixing Air Valve ISI marked complete in all respects.				3	Nos.
5	Provision for indicating Arrow plates for sluice valve and Air Valves				12	Nos.
6	Construction of Brick masonry haudi for Sluice Valves and Air valves including surface boxes complete Public Health Standard				54	Nos.
7	Provision for providing & fixing Lawn Hyderents with sprinkler system at a distance of 30 mtr centre to centre on the periphery (green land) complete in all respects				54	Nos.

Bill of Quatities of Sub Work No. 4

(Storm Water)

Sub Head No. 1

Sr. No.	Description						Quantity	Unit
1 / 6.10	Excavation of trenches in streets, lanes or in open areas for storm sewer, sewers running by gravity and manholes to full depths as shown in drawings including shoring, timbering of poling boards, frame system type, dressing to correct sections and dimensions, according to templates and levels, dewatering, provision for diversion of traffic, cutting trees and bushes, etc. night signals, profiles pegs, sight rails, boning rods, crossing over trenches for access to the houses, watching, fencing etc., fixing and maintenance of caution boards, refilling of trenches, watering of refill, in 15 cm layers, ramming and restoration of unmetalled or unpaved surface to original condition and removal of surplus soil from site of work upto a lead of 1 Km in ordinary soil (a) for depth of excavation not exceeding 3 mtrs below ground level							
	Pipe	Length	Width	Avg.	Qty			
	400	2190	0.96	1.55	3261			
		2190	0.70	0.21	322			
	400	2903	0.96	1.67	4651			
		2903	0.70	0.21	427			
	400	2298	0.96	1.59	3509			
		2298	0.70	0.21	338			
	500	199	1.06	2.38	504			
		199	0.76	0.27	41			
	500	411	1.06	2.33	1016			
		411	0.76	0.27	83			
	500	63	1.06	2.25	151			
		63	0.76	0.27	13			
	600	126	1.27	2.61	417			
		126	0.87	0.32	35			
	600	52	1.27	2.70	179			
		52	0.87	0.32	14			
	700	320	74.83	2.98	71260			
		320	0.98	0.37	115			
	700	461	74.83	2.99	103407			
		461	0.98	0.37	166			
	700	297	74.83	2.68	59436			
		297	0.98	0.37	107			
	Total						249452	cum
	For Manholes							
	Pipe	No.	L	W	D	Qty		
	400	79	2.19	1.59	1.55	426		
	400	104	2.19	1.59	1.67	608		
	400	83	2.19	1.59	1.59	459		
	500	7	2.42	1.82	2.38	75		

	500	15	2.42	1.82	2.33	151		
	500	2	2.42	1.82	2.25	21		
	600	5	2.42	1.82	2.70	54		
	600	2	2.42	1.82	5.31	41		
	700	1	2.42	2	2.98	8		
	700	14	2.42	2	2.99	222		
	700	11	2.42	2	2.68	147	2211	cum
2 / 29.87	Construction Brick masonry Road Gully Chambers including dressing of beds and sides of chamber to exact profiles 15 cm thick lime concrete 16:24:100 (as per specified in ite No. 10.6) in foundation, 1st Class brick work laid in cement concrete 1:2:4 topping inside the chamber with a floating coat of 1.5 mm thick neat cement laid in one operation to the topping the entire 12 mm thickness of 1:2 cement sand plaster and finished with a floating coat of neat cement 1 mm thick left absolutely smooth polished and correct to templates including labour for fixing the CI road gully grating and frame including painting with coal tar (as specified in item NO. 29.48 complete and to the requirement of the engineer in charge							
	Double road gully chamber						321	each
3 / NS Base of HSR additional items 29.94	Providing, Lowering, laying, cutting (cut surface to be uniformly finished), jointing with rubber rings marked with IS: 5382 and testing of Spigot and socketted RCC NP3 sulphate resisting cement marked with IS: 12330 and specials into trenches for all depths including carriage, loading, unloading etc. complete in all respects to the satisfaction to the Engineer in charge.							
	Pipe Size				Avg. Depth			
	400 mm i/d				1.55		2244	Mtr.
	400 mm i/d				1.67		2975	Mtr.
	400 mm i/d				1.59		2355	Mtr.
	500 mm i/d				2.38		204	Mtr.
	500 mm i/d				2.33		421	Mtr.
	500 mm i/d				2.25		60	Mtr.
	600 mm i/d				2.61		129	Mtr.
	600 mm i/d				2.70		49	Mtr.
	700 mm i/d				2.98		75	Mtr.
	700 mm i/d				2.99		471	Mtr.
	700 mm i/d				2.68		304	Mtr.

4	Construction of Rectangular standard Brick Masonry Manhole Chamber in 1:5 cement stone dust mortar C.C. 1:2:4 in benching, 12mm thick cement stone dust plaster water tight 1:2 cement stone dust mortar with a floating coat of neat cement and finished with two coats reinforced cement concrete slab with supplying and fixing heavy duty SFRC manhole cover & frame and PVC step complete. of size 900mm x 1500mm			
	Pipe Size	Avg. Depth		
	400 mm i/d	1.55	79	No.
	400 mm i/d	1.67	104	No.
	400 mm i/d	1.59	83	No.
	500 mm i/d	2.38	7	No.
	500 mm i/d	2.33	15	No.
	500 mm i/d	2.25	2	No.
	600 mm i/d	2.61	5	No.
	600 mm i/d	2.70	2	No.
	700 mm i/d	2.98	1	No.
	700 mm i/d	2.99	14	No.
	700 mm i/d	2.68	11	No.

Bill of Quantities of Sub Work No. 5			
Sub Head No. 1			Road Side Plantation
Sr. No.	Description	Quantity	Unit
a / NS (DSR 23.1)	Trenching the ordinary soil up to depth of 60 cm i.e. removal and Stacking of serviceable material & disposing by spreading and leveling within a lead of 50 M and making up the trench area for proper levels by filling with earth or earth mixed with manure before and after flooding trench with water excluding cost of imported earth and manure. Area of Road X 0.6	19718.15	cum
b / NS (DSR - 23.3)	Supply and stacking sludge at site including royalty and carriage Green Area x 0.04 m	397.67	cum
c	Rough dressing of turfed area Grassing with “DOOB GRASS” i.e. watering & maintenance of lawns for 30 days till the grass forms a thick lawn, free from weeds and fit moving in rows 7.5 cm part in either direction including provision for hedges and barbed wire around park	9941.76	sq mtr
2/ 33.16 DSR	Maintenance of lawns or turffing of slopes for a period of 1 year	9941.76	sq mtr
4	Road Side Plantation and plantation along the roads and above after distance of each 6 m		
i	Trees	2014	
ii	Shurbs	1726	
	Total	3740	each
5	Providing & Fixing of Tree Guards 25% of Number of Tress	504	each

Bill of Quatities of Sub Work No. 6 Lighting & Fittings			
Sub Head No. 1			Lighting & Fittings
Sr. No.	Description	Quantity	Unit
1	Cost of Lighting & Fittings	1000	Nos.
2	Cost of Poles	350	Nos.