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# Municipal Corporation, Gwalior

## Probable Estimate for Laying of main trunk from Aadarsh Nagar tiraha to chandra Nagar puliya, Gwalior

SN	ITEMS	UNIT	QUANTITY	RATE (In Rs.)	AMOUNT (In Rs.)
1	Earth work in excavation for foundation, trenches for pipes / cables or drains etc. by mechanical means / manual means (exceeding 30cm in depth.) Including ramming of bottom, dressing of sides, disposal of excavated earth including of all lift and lead upto 50m. Disposed earth to be levelled and neatly dressed. All kinds of ordinary soil 0 to 1.5m	cum	4000	151	604000
2	1.5m to 3m				
3	3m to 4.5m	cum	5000	181.2	906000
4	4.5m to 6m	cum	7000	217.44	1522080
5	6m to 7.5m	cum	10000	260.92	2609200
		cum	12000	313.11	3757320
6	In or under water and/or liquid mud, including pumping out water as required. (All water that may accumulate in excavations during the progress of the work from seepage, (not due to the negligence of the contractor), shall be bailed, pumped out or otherwise removed. The contractor shall take adequate measures for bailing and/or pumping out water from excavations and/or pumping out water from excavations and construct diversion channels, bunds, sumps, etc) Muddy soil 0 to 1.5m	cum	50	181.2	9060
7	1.5m to 3m				
8	3m to 4.5m	cum	40	217.44	8697.6
9	4.5m to 6m	cum	50	260.928	13046.4
10	6m to 7.5m	cum	200	313.11	62622
		cum	200	375.76	75152
11	In or under foul position, including pumping out water required. (Excavation, where sewage, sewage gases or foul conditions are met with from any source, shall fall in this category. Decision of the Engineer-in-Charge whether the work is in foul position or not shall be final.) Foul position 0 to 1.5m	cum	50	181.2	9060
12	1.5m to 3m				
13	3m to 4.5m	cum	40	217.44	8697.6
14	4.5m to 6m	cum	100	260.928	26092.8
15	6m to 7.5m	cum	100	313.11	31311
		cum	200	375.76	75152
16	Filling by available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	cum	20000	89	1780000
17	Supplying and filling in plinth under floors including, watering, ramming consolidating and dressing complete. Crusher Stone Dust	cum	1500	687	1030500
18	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 1000 meter, stacking serviceable and unserviceable materials separately and as per relevant clauses of section-200. Bituminous courses	cum	500	420	210000
19	Granular courses				
		cum	1500	378	567000
20	Dismantling of cement concrete pavement i/c breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials up to a lead upto 1000 meter, stacking serviceable and unserviceable materials separately and as per relevant clauses of section-200.	cum	300	749	224700



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21	Removal of Cement Concrete pipe of sewer gutter up to 1500 mm dia. under the supervision of concerned department including disposal with all lifts and up to a lead of 1000 Meters and stacking of serviceable and unserviceable material separately but excluding earth excavation and dismantling of masonry works. Removal of Cement Concrete Pipes	meter	100	223	22300
22	Dismantling of old S.W. pipes including breaking of joints and bed concrete stacking of useful materials near the site within 50 m lead and disposal of unserviceable materials into municipal dumps: 150mm	meter	500	23	11500
23	200mm	meter	500	25	12500
24	Dismantling of manhole including R.C.C. top slab, cover with frame including stacking of useful materials near the site and disposal of unserviceable materials into municipal dumps. Circular/ square/ rectangular upto 45 cm deep	each	10	1134	11340
25	46 cm to 90 cm deep	each	5	1844	9220
26	91 cm to 150 cm deep	each	10	1889	18890
27	151 cm to 250cm deep	each	5	2602	13010
28	Constructing Brick masonry rectangular manhole in cement mortar 1:4 (1cement:4 fine sand) common Burnt Clay Brick or fly ash bricks, of compressive strength not less than 75 Kgf/ cm <sup>2</sup> , 20 cm thick foundation in cement concrete 1:3:6 (Nominal Mix) with stone aggregate 40mm nominal size, inside & outside plastering minimum 12 mm thick with cement mortar 1:3 (1 cement:3 coarse sand) finished with a floating coat of neat cement and making channels in Cement Concrete 1:2:4 (Nominal Mix) with stone aggregate 20mm nominal size including finishing the channel to shape, including providing and fixing footrest, manhole cover and frame etc. complete. (only excavation as per actual shall be paid separately), Depth of manhole shall be considered as the vertical distance from top of the manhole cover to the outgoing invert of main drain channel. (for reference purpose use Drawing No. 11) Man hole for property connection (House connection) in narrow lanes. Man hole with above specifications having inside size 450x450mm and 900mm deep including SFRC square Man hole Cover and frame (medium Duty) 450mmx 450mm complete.	each	20	5813	116260
29	Constructing Brick masonry rectangular manhole in cement mortar 1:4 (1cement:4 fine sand) common Burnt Clay Brick or fly ash bricks, of compressive strength not less than 75 Kgf/ cm <sup>2</sup> RCC top slab Cement Concrete 1:2:4 (Nominal Mix) with stone aggregate 20mm nominal size, 20 cm thick foundation in cement concrete 1:3:6 (Nominal Mix) with stone aggregate 40mm nominal size, inside & outside plastering minimum 12 mm thick with cement mortar 1:3 (1 cement:3 coarse sand) finished with a floating coat of neat cement and making channels in Cement Concrete 1:2:4 (Nominal Mix) with stone aggregate 20mm nominal size including finishing the channel to shape, including providing and fixing footrest, manhole cover and frame etc. complete. (only excavation as per actual shall be paid separately), Depth of manhole shall be considered as the vertical distance from top of the manhole cover to the outgoing invert of main drain channel. (for reference purpose use Drawing No. 11) Man hole with above specifications having inside size 600x450mm and 900mm deep including SFRC rectangular Man hole Cover and frame (medium Duty) 600mm x 450mm complete.	each	20	5854	117080



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30	Providing, laying and jointing following P.V.C. - U pipes with solvent cement joint for Non-pressure gravity drain and sewer applications including testing of joints, cost of jointing materials etc. complete in all respect. 110 mm dia.	per meter	500	214	107000
31	Construction of circular type manhole 900 mm internal dia. at bottom, 560 mm dia at top, depth of manhole 900 mm, common Burnt Clay Bricks or fly ash bricks of compressive strength not less than 75 Kg/cm <sup>2</sup> with 1:4 cement mortar (1 cement : 4 coarse sand), inside & outside plastering minimum 12 mm thick with cement mortar 1:3 (1 cement:3 coarse sand) finished with a floating coat of neat cement. 20 cm thick foundation in cement concrete 1:3:6 (Nominal Mix) with stone aggregate 40mm nominal size, and making channel in cement concrete 1:2:4 (Nominal Mix) with stone aggregate 20mm nominal size including finishing the channel to shape, including providing and fixing footrest, manhole cover and frame etc. complete. (only excavation as per actual shall be paid separately) fixing of heavy duty (HD-20) SFRC cover and frame as per IS 12592 fixed in Cement concrete 1:2:4 (nominal mix) with stone aggregate 20mm nominal size including centering and shuttering etc. complete as per standard drawing. Depth of manhole shall be considered as the vertical distance from top of the manhole cover to the outgoing invert of main drain channel. (as per Drawing No. - 13-A)	each	20	7950	159000
32	Extra for increasing depth of manhole mentioned at Item No. 10 above 900mm and up to 1650mm. (only excavation as per actual shall be paid separately)	meter	20	4524	90480
33	Construction of circular type manhole 1200 mm internal dia. at bottom, 560 mm dia at top, depth of manhole 1660 mm, common Burnt Clay Bricks or fly ash bricks of compressive strength not less than 75 Kg/cm <sup>2</sup> with 1:4 cement mortar (1 cement : 4 coarse sand), inside & outside plastering minimum 12 mm thick Cement plaster 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, 25 cm thick foundation in cement concrete 1:3:6 (Nominal Mix) with stone aggregate 40mm nominal size, and making channel in cement concrete 1:2:4 (Nominal Mix) with stone aggregate 20mm nominal size including finishing the channel to shape, including providing and fixing footrest, manhole cover and frame etc. complete. (only excavation as per actual shall be paid separately) fixing of heavy duty (HD-20) SFRC cover and frame as per IS 12592 fixed in Cement concrete 1:2:4 (nominal mix) with stone aggregate 20mm nominal size including centering and shuttering etc. complete as per standard drawing. Depth of manhole shall be considered as the vertical distance from top of the manhole cover to the outgoing invert of main drain channel. (as per Drawing No. - 13-B)	each	50	15197	759850
34	Extra for increasing depth of manhole mentioned at Item No. 12 above 1660 mm and up to 2300 mm . (only excavation as per actual shall be paid separately)	meter	30	6210	186300

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35	Construction of circular type manhole 1500 mm internal dia. at bottom, 560 mm dia at top, depth of manhole 2310 mm in common Burnt Clay Bricks or fly ash bricks of compressive strength not less than 75 Kg/cm <sup>2</sup> with 1:4 cement mortar (1 cement : 4 coarse sand), inside & outside plastering minimum 12 mm thick Cement plaster 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, 30 cm thick foundation in cement concrete 1:3:6 (Nominal Mix) with stone aggregate 40mm nominal size, and making channel in cement concrete 1:2:4 (Nominal Mix) with stone aggregate 20mm nominal size including finishing the channel to shape, including providing and fixing footrest, manhole cover and frame etc. complete. (only excavation as per actual shall be paid separately) fixing of heavy duty (HD-20) SFRC cover and frame as per IS 12592 fixed in Cement concrete 1:2:4 (nominal mix) with stone aggregate 20mm nominal size including centering and shuttering etc. complete as per standard drawing. Depth of manhole shall be considered as the vertical distance from top of the manhole cover to the outgoing invert of main drain channel. (as per Drawing No. - 14-A)	each	80	22635	1810800
36	Extra for increasing depth of manhole mentioned at Item No.14 above depth 2310 mm and up to 4950 mm (only excavation as per actual shall be paid separately)	per meter	30	13961	418830
37	Making connection of drain or sewer line with existing service lines manhole including breaking into and making good the walls, floors etc. with cement concrete grade M-15 (Nominal Mix) with stone aggregate 20mm nominal size plastered with Cement Mortar 1:3 (1 Cement : 3 coarse sand) finished with a floating coat of neat cement and making necessary channels etc. complete. For 100 to 200 mm dia pipes	each	5	494	2470
38	For 250 to 300 mm dia pipes	each	5	543	2715
39	For 350 to 450 mm dia pipes	each	3	726	2178
40	Providing, Laying and Jointing non-pressure (NP4) RCC socket & spigot pipes with rubber gasket joint including testing of joints.450 mm	meter	2200	2681	5898200
44	Transportation By Mechanical means including loading, unloading and stacking where ever necessary Excavated Earth 4 km	cum	10000	135.42	1354200
45	Water Bound Macadam - Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam including spreading in uniform thickness ,hand packing, rolling with vibratory roller 8-10 tonnes in stage stopproper grade and camber, applying and booming requisite type of screening /binding materials to fill up to he interstices of coarse aggregate, watering and compacting to the required density and as per relevant clauses of section-404 of specifications Grading- II (53 to 22.4mm) Using Screening Type-B (11.2mm Agg.)	cum	1500	1528	2292000
46	Providing and applying Prime Coat with Cationic Bitumen Emulsion (SS1 Garde) on prepared surface of granular Base including cleaning of road surface and spraying primer at the rate of 0.70 to 1.00 Kg/Sqm using mechanical means as per Section 502 of the specifications.	sqm	4000	45	180000
47	Providing and applying Tack Coat with cationic bitumen emulsion (RS-1) using emulsion pressure distributor on the prepared bituminous/granular surface cleaned with mechanical broom and as per Section 503 of the specifications.@ 0.40 Kg per Sqm (Non-bituminous surfaces) granular base not primed.	sqm	4000	20	80000



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48	Providing and laying Dense Bituminous Macadam with hot mix plant batch using crushed aggregates of specified grading, premixed with bituminous binder, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction complete in all respects and as per Section 505 of the specifications. (As specified, Lime or cement will be used as filler) For Grading I (75-100mm thickness) bitumen content 4.0% (VG-30)	cum	300	7129	2138700
49	Providing and laying Bituminous Concrete with hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects and as per Section 507 of the specifications. For Grading I (50-65 mm thickness) with VG-30 bitumen @ 5.2%	cum	300	8766	2629800
50	Providing and laying in position Plain cement concrete (PCC) of specified grade excluding the cost of centering and shuttering Cement concrete grade M-15 (Nominal Mix) with 20 mm maximum size of stone aggregate	cum	660	4755	3138300
51	Providing and Laying Cement Concrete Grade M-20 with 20 mm graded crushed stone aggregate, mixing shall be in mechanical mixer, laying with paver compacting by use of pin, plate / screed vibrators including form work by strong steel girders fixed by spikes, separation membrane 125 micron thick, including cutting of joints @ 4 to 5 m interval and filling it with hot applied bituminous sealant (without dowel bars) (max. thickness 20 cm).	cum	100	5251	525100
52	Lifting & Placing of manhole cover during cleaning of choked sewer line & manhole. SFRC 560 mm dia size	each	20	32	640
53	SFRC 450x900 mm size	each	30	45	1350
54	Cleaning of Silt, sludge brick bats, polythene bags, garbage etc. from choked sewer manholes / sewer drains & Nallahs/ wet well of SPH/ Anaerobic & Facultative Pond of STP with all required T&P such as bucket, manila rope, and all required safety equipment such as safety belt, gas mask, oxygen cylinder etc. including disposal of silt/ sludge upto 50 mtr lead & 1.5 mtr. lift as directed by Engineer-in-Charge including dewatering but excluding dewatering (plugging of sewer pipe line) Depth up to 1.5 mtr	cum	50	441	22050
55	Extra rate for depth 1.5 m to 3m or part				
56	Extra rate for depth 3m to 4.5 m or part	cum	100	463	46300
57	Extra rate for depth 4.5 m to 6m or part	cum	120	507	60840
58	Extra rate for depth 6m to 7.5 m or part	cum	100	557	55700
		cum	50	612	30600
59	Cleaning of Silt, sludge brick bats, polythene bags, garbage etc. from choked sewer line with all required T&P and Safety equipment such as bucket, manila rope, safety belt, gas mask, oxygen cylinder etc. including disposal of silt, sludge upto 50m lead & lift up to 1.5mtr. as directed by Engineer-in-Charge including dewatering but excluding dewatering (plugging of sewer pipe line) 150 mm dia depth up to 1.5 m	per meter	300	37	11100
60	Extra rate for depth 1.5 m to 3m	per meter	150	39	5850
61	Extra rate for depth 3m to 4.5 m	per meter	200	43	8600
62	Extra rate for depth 4.5 m to 6m	per meter	100	49	4900



**तकनीकी स्वीकृति**

विभाग ..... जल उद्योग शाखा गगन कालिङ सिविल इंजीनियरिंग  
प्रशासना क्षेत्र उपखण्ड का नाम ..... डेपुटी संचालक उपाखंड क्र. 4 व्यापारिक  
उप. की का नाम ..... माधव गिर सहकारी अकाउंट्स चंडनगर पश्चिम तट सीमा लक्ष्मी नदी  
कार्य अनुमानित लागत (राशि रु.) ..... ५०० लाख मात्र  
प्रस्तावन प्रस्तुतकर्ता कार्यपालनयंत्री / मुख्यालय अधिकारी का नाम एम.ओ.  
..... श्री संदीप कुमार गुप्ता  
जिन प्रस्तुतकर्ता सहायक उपयंत्री / बेलार अध्येक्षी का नाम श्री रामेश्वर शर्मा  
जिन प्रस्तुतकर्ता उपयंत्री / क्षेत्राधिकारी का नाम ..... श्री संदीप बिहारी  
उत्तरादन से सहमत होकर तकनीकी स्वीकृति दी जाती है।  
तकनीकी स्वीकृति क्र. 144 दिनांक 24/03/26  
*(Signature)*  
24/03/26