

MUNICIPAL CORPORATION OF GREATER MUMBAI

BOQ

Subject:-		Providing and laying 450mm (OD) HDPE pipe (PN6 Class -PE 80 grade : IS14333) to correct grade and alignment by HDD method from RCF Road Gate no.2 to proposed Mysore Colony Sewage Pumping Station at Y-junction, Mahul Road, in Chembur, M/West Ward				
Sr. No.	Schedule Item No.	Description	Qty	Rate (Rs.)	Unit / Per	Amount (Rs.)
1	R2-SE-1-1	Excavation for foundations, substructures, basements, tanks, sumps, walls, chambers, manholes, trenches, poles, pits & general building works in all types of soils, vegetable earth, soft murum, running sand, shingle, turf clay, loam, peat, ash, shale, slag, chalk, garbage, muddy / marshy / slushy soil, marine clay, reclaimed land etc. for depths/lifts upto 2.0M measured from the ground level, including dressing/trimming the sides, leveling and ramming of bottoms, manual dewatering, removing rank vegetation, backfilling in layers not more than 200 mm thickness, watering, consolidating, compacting to achieve not less than 97% Modified Proctor density conforming to relevant I-S, stacking the selected material in measurable heaps for future use within owners space or disposing within an initial lead of 150 m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge.Note: 1)The rate includes the handling/supporting the existing utilities	1570.00	468	Cum	734760
2	R2-SE-1-1-a	,do-do- as per item R2-SE-1-1 for lift from 2m to 4.0m	730.00	638	Cum	465740
3	R2-SE-1-1-B	,do-do- as per item R2-SE-1-1 for lift from 4m to 6.0m	250.00	868	Cum	217000
4	R2-SE-1-1-c	,do-do- as per item R2-SE-1-1 for lift from 6m to 8.0m	190.00	1036	Mtr	196840
5	R2-SE-1-1-j	Extra over above for item no. R2-SE-1-1 to R2-SE-1-1-i for relevant lift of excavation in soft/ disintegrated rock, road carriageway,sand stone, stiff clay, gravel, cobblestone, hard laterite, water bound macadam, wet mix macadam, asphalt mix carpet of any type, pitching, soling, paths and hardcore, lime concrete, plain cement concrete, stone masonry and all types of brick/ block masonry below ground level	760.00	429	Cum	326040
6	R2-SE-1-1-u	Extra over above for item no.R2-SE-1-1 to R2-SE-1-1-i for	580.00	2100	Mtr	1218000
7	R2-SE-1-1-ae	Extra over above for item no.SE-1-1 to SE-1-1-i for	580.00	4970	Mtr	2882600
8	ccc	Providing and removing closed shoring and strutting in the trenches / pits for all depths as per specifications / drawings and or as directed by Engineer - in -charge by including walling, struts, open poling boards, horizontal sheeting, runners, dog spikes by using timber etc. complete.	85.00	8586	CUM of wood	729810
9	R2-SE 1-5-a	Leaving shoring in trenches. (New or old) including dog spikes	20.00	15561	CUM of wood	311220
10	R2-RW-10-27	Providing and laying M10 cc.P/L R.M.C. M-10 C.C. having avg. compressive strength 13.5 Mpa grade in foundation / encasement/pavement with or without chequered design including formwork, mixing in batching plant, placing vibrating with plate or needle curing etc. complete as directed by the Engineer. C/s. has to make his own arrangement for water for curing with Hessian cloth etc. & will not be paid separately.(MINIMUM CEMENT CONTENT 220 Kg/m ³ .)	20.00	6452	CUM	129040
11	R2-RW-10-26	P/L ready mix cement concrete M-15cc having avg compressive strength 18.5 Mpa for foundation/encasement/ pavement/ cradle including form of mixing in batching plant, compacting by internal & surface vibrator, curing, finishing etc. complete as specified & as directed by the Engineer. Contractor has to make his own arrangement for water for curing etc.& will not be paid separately for it.(MINIMUM CEMENT CONTENT 240 Kg/m ³ .)	105.00	6893	CUM	723765
12	R2-CS-MW-2-b	Brick work with common burnt clay modular bricks of class designation 3.5 and above in foundation and plinth in Cement mortar 1:4 (1 cement 4 coarse sand)	20.00	5368	CUM	107360
13	R2-CS-MW-18	Uncoursed rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) upto plinth level with: Cement mortar 1:6 (1 cement : 6 coarse sand).	40.00	4326	CUM	173040
14	R2-SE-4-4	Providing 20 mm thick cement plaster in cement mortar 1::2 including neat cement rendering with approved water proofing compound in a proportion as specified by the manufacturers, per bag of cement.	50.00	389	Sq.mt	19450

15	R2-SE-5-1-a	Providing & laying stoneware pipes of SP2 class including jointing with CM(1:1), filleting etc. complete as specified & directed. (150MM DIA)	440.00	657	mtr	289080
16	R2-SE-5-11-a	Providing, Laying and Jointing 160 mm diameter (OD) Double Wall Corrugated (DWC) PE pipes of SN 8 class with R/R joint with PE coupler as per ISO21138-3 complete as specified and directed	50.00	702	mtr	35100
17	R2-SE-6-2-b	Constructing on sewer brick masonry conical manhole 1.5 M. dia. at bottom and 0.56 M dia. at top including C.I. Extra.Heavy Duty circular air tight frame and cover etc. complete as per description in item No.R2-SE-6-1 depth upto 2.3M.	22.00	90305	No.	1986710
18	R2-SE-6-2-c	Extra for above manhole per metre depth above 2.3M and upto 5M including safety chain and extra C.I. steps on other side of benching-do-do- as per description in item No.R2- SE-6-1	60.00	34099	M.D	2045940
19	R2-SE-6-2-D	Extra for above manhole per metre depth above 5.0M and upto 9M including safety chain and extra C.I. steps on other side of benching-do-do- as per description in item No.R2- SE-6-1	35.00	48097	M.D	1683395
20	R2-SE-6-8	Constructing on sewer brick masonry scraper manhole 1.5M x 1.5M at bottom and 1.2 M x 0.9M at top, including C.I. EHD airtight rectangular frame and cover weighing minimum 900 kg . Complete as per description in Item No.R2-SE-6-1 depth 2.9 M	5.00	226634	No.	1133170
21	R2-SE-6-8-a	Extra for above manhole per metre depth above 2.9M and upto 5 M including safety chain and extra C.I steps on other side of benching-do-do-	15.00	40863	M.D	6,12,945.00
22	R2-SE-6-8-b	Do- -do- above 5 M depth and upto 9 M depth -do- -do-	10.00	59228	M.D	5,92,280.00
23	R2-SE-7-1	Providing 150 mm dia stoneware pipes of SP2 class in vertical drop of 0.6M including 150 mm dia stone ware pipe fixed in brick masonry of the manhole at required level & providing 150 mm dia stone ware right angled bend, 150 mm x 150 mm x 150 mm S. W. double tee junction including cutting, jointing & filleting as per detailed specifications, encased in half brick thick masonry in cement mortar (13) all round the pipes double tee, bend and extra brick work below bend upto the foundation of the manhole and tapering portion of the manhole, plastering the exposed surfaces after raking out the joints of the masonry to a depth of 20 mm in C.M. (12) 20 mm thick and neat cement rendering so as to give	27.00	4220	No.	113940
24	R2-SE-7-1-a	Extra over above R2-SE-7-1 per additional metre depth -do--do-as per above item.R2-SE-7-1	101.00	3234	MD	326634
25	R2-SE-9-1	Providing R.C.C. Spun vent shaft 7.3M in height embedded in M15 cement concrete including flue chamber etc.complete without excavation.The height of the vent shaft to be measured from its bottom upto the top as per the drawing and as specified and directed	5	52114	No.	260570
26	R2-RW-7-37	To carry out total station survey of the road with reference to existing coordinate system by establishing control stations by establishing temporary bench mark from permanent bench mark, marking centre line of the road by nails, carrying out detailed levelling, plotting cross sections longitudinally at 10 mtr. intervals with levels at every 2 mtr. cross distance, preparing drawings on Auto cad to the scale of 1:500 and supplying 2 hard copies and 1 soft copy in C.D. form.. etc. complete upto 18.30 mtr. wide road.	1.00	20182.5	upto 500 mtr	20182.5
27	R2-RW-7-38	Add for additional metre length (Extra over and above R2-RW-7-37for every 100 mtrs. And part thereof.)	4.00	3900	per 100 mtr	15600
28	R2-RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100mm to 75mm (compacted thickness each) with motor grader or paver on prepared murum surface & compacting with 10 tonne vibratory roller to achieve desired density including all material, labour, machinery, lighting, barricading to all lifts & lead, maintenance of diversion etc.complete (metal gradation from 75mm to 75 micron as per prevailing MCGM specifications for Road works clause no.210).	40.00	2547	CuM	101880

29	R2-RW-2-20	Providing & laying, spreading & compacting graded crushed stone aggregate to Wet Mix Macadam satisfaction including premixing the material with water to OMC in mechanical mix (pug mill) carriage of mix material by tipper to site laying in uniform layer of 75mm to 100mm (compacted thickness each) with sensor paver finisher on prepared subbase & compacting with vibratory roller (10 tonne) to achieve desired density including lighting, guarding barricading & maintenance of diversion etc. as directed by the Engineer, (Rebate for not using sensor paver should be taken, (metal gradation from 53mm to 75mm micron as per MCGM Road Specifications clause no.240).	60.00	2937	CuM	176220
30	R2-RW-10-28	Supply & fillings and metal, GRAVELLY SAND, corresponded to CLASS II / CLASS III GRADING of TABLE 100.1 of MCGM road specifications for road works in trenches upto required depth & watering, ramming etc. complete as directed.	140.00	1905	CuM	266700
31	R2-RW-3-11	Providing & fixing 80 mm thick interlocking unishape concrete pavers (monolithic- single layer precast concrete blocks) in grey cement in the carriageway having average crushing strength of not less than 50N/mm ² as per technical specification and IS Code 15658:2006, placed on average compacted thickness of 25 mm, well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with the proper level, grade and camber etc. complete as specified and as directed by the Engineer.	350.00	871	SqM	304850
32	R2-SE-7-11	Do- do- 450 mm dia HDPE pipes of PE-80 grade and PN-6 class in vertical drop of 0.9M -do- -do- as in item No.R2-SE-7-4	1.00	63971	NO.	63971
33	R2-RW-5-20	Providing and applying PRIME COAT with CATIONIC	30.00	69	SqM	2070
34	R2-RW-5-24	Providing and applying TACK COAT with CATIONIC	30.00	27	SqM	810
35	R2-RW-5-45	P/L hot Premix Dense bituminous macadam with 4.50% bitumen content of grade VG-40 to the required line, level and camber rolling with 10 / 12 M.T. power, vibratory roller & sensor paver etc. complete as specified and as directed to thickness of 75mm with antistripping agent at 1% by weight of bitumen using grading II of "MORTH" (As per prevailing MCGM specifications for Road works Clause no.364)	30.00	721	SqM	21630
36	R2-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.2 to 0.25Kg. of Sq.mt over prepared surface to receive bituminous mix by applying TACK COAT with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed For NORMAL BITUMINOUS SURFACES & the tack coat shall be left to cure until all the volatile have evaporated before any subsequent construction is started, which is indicated by change in colour from brown to black (As per prevailing MCGM specifications for Road works Clause no.364)	30.00	26	SqM	780
37	R2-RW-5-40	P/L hot premix Bituminous concrete with 6.00% of bitumen grade VG-40, surface coat by mix design as per MORTH to the compacted thickness of 40mm, using new material to the required line, level and camber rolling with power vibratory roller & sensor paver, etc. Complete as specified and as directed with lime filler 2% by weight and antistripping agent @1% of bitumen by weight etc. complete (As per prevailing MCGM specifications for Road works clause no.364)	30.00	479	SqM	14370
38	R2-SE-14-1-d	Providing, Laying and Jointing of 450 mm dia (OD) HDPE pipe (PN 6 Class-PE 80 grade: IS 14333) to correct grade and alignment from 3m upto 5m depth including boring, Pilot inclined dilling from existing ground level upto required depth (invert level) on rig side of proposed gravity sewer line (i.e. entry side) and Final inclined boring from existing ground level upto required depth (invert level) or viceversa on pipe side (i.e. exit side) of proposed gravity sewer line using Horizontal Directional Drilling method in any type of ground including soft soil, mixed ground and soft/hard rock. Length of gravity sewer line between inner faces of two consecutive proposed manholes will be considered for measurement.	40.00	61539	RM	2461560

39	R2-SE-14-3-d	Providing, Laying and Jointing of 450 mm dia (OD) HDPE pipe (PN 6 Class-PE 80 grade: IS 14333) to correct grade and alignment from 5m upto 8m depth including boring, Pilot inclined dilling from existing ground level upto required depth (invert level) on rig side of proposed gravity sewer line (i.e. entry side) and Final inclined boring from existing ground level upto required depth (invert level) or viceversa on pipe side (i.e. exit side) of proposed gravity sewer line using Horizontal Directional Drilling method in any type of ground including soft soil, mixed ground and soft/hard rock. Length of gravity sewer line between inner faces of two consecutive proposed manholes will be considered for measurement.	750.00	66311	RM	49733250
40	R2-SWD-15-A	Providing and laying RMC (Ready Mixed Concrete) M-15 grade Plain cement concrete in foundation including boxing,curing by any means, etc. complete as specified and/or as directed by Engineer-in-Charge.	5.00	6764	CuM	33820
41	R2-SWD-35	Cutting down existing cement / lime concrete works by any means in pavement, bedding below foundation, coping, walls arches, stone, brick pavement coping etc. of any ckness of any height / depth above or below ground level etc.complete, as specified & as directed by Engineer-in-Charge.	5.00	1314	CuM	6570
42	R2-SWD-36	Cutting down completely RCC slab, walls, beams , columns, arches, piles, pile caps of any thickness and or size of any height / depth by any means below or above ground level including cutting down steel reinforcement, removing and stacking them properly as directed etc.complete, as specified & as directed by Engineer-in-Charge.	5.00	1588	CuM	7940
43	R2-SWD-178	Providing & placing in position controlled Ready Mix Concrete of grade M- 40 in raft slab by using Ordinary Portland Cement including transportation to site anywhere in Mumbai including curing by any means etc. complete as directed by Engineer-in-Charge. (Reinforcement & Formwork shall be paid separately).	5.00	7777	CuM	38885
44	R2-SWD-179	Providing & placing in position controlled Ready Mix Concrete of grade M- 40 in walls and deck slab above or below ground level at any height / depth by using Ordinary portland Cement including Transportation anywhere in Mumbai including curing by any means etc complete as directed by Engineer-in-Charge. (Reinforcement & Formwork will be paid separately).	5.00	9569	CuM	47845
45	R2-CS-CW-30-b	Walls (any thickness) including attached butteresses, ,retaining wall, shear wall, diaphragm wall etc	50.00	558	SQM	27900
46	R2-CS-CW-30-c	Suspended floors, roofs, landings, balconies and access platform. (Centering & Shuttering)	100.00	568	I	56800
47	R2-CS-CW-35-b	Providing and fixing in position steel bars reinforcement of various diameters for R.C.C. pile, pile caps, footings,raft,retaining wall,shear wall, lift wall, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, coping, fins, arches, etc. as per detailed designs, drawings and bar bending schedules,including straightening, cutting, bending, hooking the bars, binding with wires or tack welding, supporting as required etc. all complete at all levels. HYSD steel bars (Fe 415)	1.50	73279	MT	109918.5
48	R2-RW-10-32	Providing and laying Dry Lean Concrete base including providing coarse and fine aggregate to the specified gradation using minimum cement content 150 kg/cum of concrete with OPC 43 grade cement,mixing of concrete as per approved design mix using mechanised batch mix plant of appropriate capacity, transporting and laying with self propelled paver with electronic sensor device and compacting with vibratory roller of mimimum 80- 100 KN static weight to give desired compacted density and average compressive strength of 10 MPa at 7 days and curing with liquid curing compound and sprinkling water and covering with moist hesian cloth or ponding of water for 7 days including providing construction joints, including all material, labour, machinery with all leads and lifts etc. complete as specified and as directed bythe Engineer. B) Laying by paver with electronic sensor	185.00	4481	CUM	828985

49	R2-RW-10-18	Providing & laying waterproof paper of 40 GSM including overlap (to be not less than 10cm)etc. complete as specified as directed	1705.00	11	SQM	18755
50	R2-RW-10-33	Providing & laying M-40 C.C.avg. compressive strength 45 MPa and avg.flextural strength of 5.0 MPa (As per IRC 15-2002.N.1.6) procured from M.C.G.M.approved R.M.C. plant including use of approved make plasticizer / retarder & Contractors water with ice flakes and transported by transit mixer and placing at work site. Compacting finishing, initial curing byapproved curing compound & Contractors waterand tarring thesides of slab with hot bitumen as specified anddirected (w/c ratio o.4 maximum)(vata for curring will be paid separately.)(MINIMUM CEMENT CONTENT 350 kg/m³)	515.00	7968	CUM	4103520
51	R2-RW-10-05	Providing & laying R.C.C. running beam in M-40 cement concrete including required formwork mixing, compacting & curing, etc. complete reinforced with 12mm dia.(Minimum 4 Nos.)M.S. main bars & 6mm Dia M.S. rings at 15cm c/c to be anchored in slipper slab properly with M.S. reinforcement as per drawing etc. complete as specified(Steel will not be paid separately).Contractor has to make his own arrangement for potable water for construction/curing with hessian cloth, etc. & will not be paid separately. Beam Size: a) 23cm x 27.50cm.	490.00	805	RMT	394450
52	R2-RW-10-11	Cutting of construction & dummy joints of M-35 C.C.& above slab by mechanical means within 10 to16 hrs.of casting of bay/slab as directed.A) transverse dummy joints 100mm deep or 1/3 thickness of concrete pavement &6 mm wide	570.00	59	RMT	33630
53	R2-RW-10-12	Cutting of construction & dummy joints of M-35 C.C.& above slab by mechanical means within 10 to 16 hrs.of casting of bay/slab as directed.B) Longitudinal construction joints 100mm deep or 1/3rd thickness of slab & 6 mm wide	245.00	59	RMT	14455
54	R2-RW-10-13	Providing & fixing in position premoulded asphalt filler 12mm thick confirming to I.S. 1838 of 1983 for placing of the expansion joint,around manholes & waterentrances, etc put to the required depth & 25mm below the camber,etc. complete as directed.	70.00	352	SQM	24640
55	R2-RW-10-15	Providing & fixing high density polythene pipe of approved quality to fit around the dowel bars of 32mm dia at the end of expansion joints,fully greased inside, cotton waste the pipe around the dowel bars & the pipe duly capped at the end as directed.(H.D.P. pipe shall be 30cm in length) As shown in the drawing.	1890.00	31	EACH	58590
56	R2-RW-10-16	Providing & fixing in position mild steel in tie bars of 12mm dia 55cm long & 45cm C/C whenever directed including handling , wrapping with paper for half length,fixing straightening, wastage etc. complete in all respect as direced.	0.60	63226	M.T.	37935.6
57	R2-RW-10-17	Providing & fixing in position M.S. dowel bars of 32mm dia 55cm long & 30cm C/C whenever directed including handling, fixing, etc. complete(no extra payment will be made for applying bitumen & grease to dowel bars).	6.60	62904	M.T.	415166.4
58	R2-RW-10-19	Providing & constructingcement vatas in c/m 1:10 at 0.6m * 0.6mc/c admeasuring 0.09m at bottom, 0.04m at top & 0.075m deep & maintaining the same throughout 14 days curing & removing the same thereafter as directed.	1850.00	78	SQM	144300
59	R2-RW-10-23	Dressing of M-35 & above new C.C.pavement,dummy,transverse, longitudinal & expansion joints with hot rubberised sealing compound confirming to IS 1834-1984 after proper cleaning with compressed air,applying required primer & providing a layer of lime powder over hot sealing compound etc. complete as directed.A) Sealing 6mm wide dummy/transverse joints with a depth of 100mm/1/3rd thickness of concrete pavement.	570.00	92	RMT	52440
60	R2-RW-10-24	Dressing of M-35 & above new C.C.pavement,dummy,transverse, longitudinal & expansion joints with hot rubberised sealing compound confirming to IS 1834-1984 after proper cleaning with compressed air,applying required primer & providinga layer of lime powder over hot sealing compound etc. complete as directed.B) Sealing of 6mm wide longitudinal joint with depth of 100mm or 1/3rd thickness of concrete pavement.	250.00	92	RMT	23000

