

BRIHANMUMBAI MUNICIPAL CORPORATION

Name of Work: **AC-184** : Resurfacing of various roads in A ward in Zone-I of City Division.

Sr.No.	Item CodeNo.	Description	Unit	Combined BOQ A Ward		
				Length	Width	
				Rate	Qty	Amount
1	R2-CS-EW-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 1.5M 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 200mm thickness, watering, consolidating, compacting to achieve not less than 97% Modified Proctor density conforming to relevant IS, stacking the selected material in measurable heaps for future use within owners space or disposing within an initial lead of 150m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge. Note:	Cu.Mt.	307.00	750.00	2,30,250.00
		1) The rate includes the handling/supporting the existing utilities such as cables, drains, pipes, water mains etc.				
		2) It also includes the royalty and other taxes applicable if any. For more details refer General Notes.				
2	R2-CS-EW-16	Excavation over areas for basements, roads, land/plot development in soft/disintegrated rock, sand stone, stiff clay, gravel, cobblestone, hard laterite, water bound macadam, wet mix macadam, pitching, soling, paths and hardcore, lime concrete, plain cement concrete, stone masonry and all types of brick/ block masonry below ground level, rock boulders, etc. for all depths/lifts including manual dewatering, filling the selected excavated earth at the locations as directed, in layers not more than 200mm thickness, watering, consolidating, compacting to achieve not less than 97% Modified Proctor density conforming to relevant IS, stacking the selected material in measurable heaps for future use within owners space or disposing within an initial lead of 150m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge. Note:	Cu.Mt.	343.00	1,319.00	4,52,417.00

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		1) The rate includes the handling/supporting the existing utilities such as cables, drains, pipes, water mains etc.				
		2) It also includes the royalty and other taxes if any.				
3	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 prevailing MCGM specification for Roadworks clause no.240).	Cu.Mt.	2,937.00	655.00	19,23,735.00
4	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 specification for Roadworks clause no.210).	Cum	2,547.00	630.00	16,04,610.00

Sr.No.	Item CodeNo.	Description	Unit	Rate	Qty	Amount
5	R2-RW-10-50	Providing and fixing of cement concrete Kerb Stone of various grades of size: 500mm width x 325 height x 165mm thick (Half Batter, Bull Nose / Full Batter) manufactured in wet press vacuum dewatering technology plant / equivalent with face pimple finish for high visibility with excellent quality and finish and edges perfect and sharp. Grade –M-25. Including excavation in any soil except rock, laying a leveling course of M 15 grade RMC 100mm. thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, painting exposed surface with one coat of primer and two coats of 1st grade road marking paint in the yellow/white/black or any shade as irected.(Kerbstones shall be procured from MCGM registered agencies).MCGM approved plant or concrete mixed with use of weigh batch mixers as detailed in drawingu/No.Dy.Ch.E./ Rds/93/E.S. of17 / 8 / 2005,excavation in any soil except rock, laying a leveling course of M 15 grade RMC 100mm. thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, paintingexposed surface with one coat of primer and two coats of 1st grade road marking paint in the yellow/white/black or any shade as directed.(Kerbstones shall be procured from MCGM registered agencies).	Rmt .	1,116.00	1,371.00	15,30,036.00
6	R2-RW-4-02	Removing & resetting kerb stones in 1:2 C.M. on newR.M.C.M-20C.C. bed15 cm, thick including filling the joints with 1:2 C.M. pointing, curing etc. complete.	Rmt .	351.00	1,380.00	4,84,380.00
7	R2-RW-7-17	Providing and applying Yellow & Black road marking paint Grade– 1 in 3 - coats, including single coat of approved brand primer after cleaning of old surface of kerb stone with brushing by wire brush as per relevant I. S. codes to the satisfaction of Engineer in charge etc. complete	R.Mt.	50.00	12,288.00	6,14,400.00
8	R2-RW-10-51	Providing and fixing ofWater Dished Channel size : 600 x 300 x 80mm,M-40 grade manufactured in vacuum wet press technology plant with excellent finish and sharp edges inclusive of excavation in any soil except rock, laying of leveling course ofM 15 grade RMC 100mm. thick to required slope, (inclusive of form work) jointing in 1:2 cm. prop. flush to concrete surfaces as directed (Watertables shall be procured from MCGM registered agencies).	Rmt .	799.00	1,366.80	10,92,073.20

Sr.No.	Item CodeNo.	Description	Unit	Rate	Qty	Amount
9	R2-RW-4-07	Removing & resetting water tables 30 cm. wide on a new M-20 cement concrete bed 15 cm .thickincludingfilling in the joints with C.M.1:2 and cement pointing , curing including removing the old cementbed, curing etc. complete.	Rmt .	398.00	0.00	0.00
10	R2-RW-5-20	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 7 to 12 Kg. of 10Sqmt. over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc.completed, as directedFor Low Porosity surface & the primed surface shall be allowed to cure for at least 24 hours or any other higher period, as is found to be necessary to allow all the moisture or volatiles to evaporate before any subsequent bituminous surface treatment or mix is laid (As per prevailing MCGM specification for RoadworksClause No. 313, curing as per 313.5)313.5)	Sqm	57.00	4,264.00	2,43,048.00
11	R2-RW-5-23	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.2 to 0.25 Kg. 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 directedFor NORMAL BITUMINOUS SURFACES & the tack coat shall be left to cure until all the volatiles have evaporated before any subsequent construction is started, which is indicated by change in colour from brown to black (As per prevailing MCGM specification for Roadworks Clause No. 314, curing as per 314.3.4)	Sqm	33.00	81,298.00	26,82,834.00
12	R2-RW-5-24	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.25 to 0.30 Kg. 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 directedFor DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specification for Roadworks Clause No. 314)	Sqm	35.00	77,034.00	26,96,190.00
13	R2-RW-7-09	Milling upto 60 mm depth asphaltic surface by using milling machine including transportation anywhere as directed.NOTE: For further passes of 60 mm or part thereof, same rate will be applicable.	Sqm	77.00	1,62,594.00	1,25,19,738.00

Sr.No.	Item CodeNo.	Description	Unit	Rate	Qty	Amount
14	R2-RW-5-50	P/L hot PremixDense bituminous macadam with 4.50%bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paveretc. complete as specified and as directed with antistripping agent at 1%by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specification for Roadworksclause no.354)	Cu.m	8,797.00	625.00	54,98,125.00
15	R2-RW-5-48	P/L hot PremixDense bituminous macadam with 4.50%bitumen content of grade VG-30 to the required line,level,and camber rolling with 10/12 M.T.power ,vibratory roller & sensor paveretc. complete as specified and as directed to thickness of 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(per prevailing MCGM specification for Roadworks clause no.354)	Sqm	440.00	81,298.00	3,57,71,120.00
16	R2-RW-5-04	P/LMINIMUM 30 mm hot Premix Bituminous concrete with6.00% of VG-30 grade bitumen using new material any where as directed including Rolling with 10 MT Pneumatic, power & vibratory roller & using sensor paver to the required grades, level, camber with line filler of 2% by weight & antistripping agent @ 1% of bitumen content by weight etc.complete.(As per prevailing MCGM specification for Roadworks clause no.364)	Sqm	339.00	81,298.00	2,75,60,022.00
17	R2-RW-6-03	Raising or lowering circular manholes to the required level upto 20 cm including all material, form work etc. with 16 cm thick cement concrete, M 15 (1:2:4) coping under frame and cover of manhole, including curing etc. complete as specified and as directed.	Each	1,151.00	907.00	10,43,957.00
18	R2-RW-6-04	Raising or lowering water entrances, hydrant key box/ sluice box/gully trap chambers to the required level, upto 20 cm including all materials,curing etc. complete as specified and as directed.	Each	801.00	689.00	5,51,889.00
19	R2-RW-6-05	Raising or lowering rectangular manholes to the required level upto 30cm including all materials, form work, brick work and with 16 cm thick M15 cc coping under frame & cover of manhole including curing etc. complete as specified and as directed.	Each	2,297.00	589.00	13,52,933.00

Sr.No.	Item CodeNo.	Description	Unit	Rate	Qty	Amount
20	R2-RT-16-32	Providing and applying hot applied thermoplastic road marking material with glass beads extremely high skid resistance 2.5mm thick with primer coat (tack coat) for binding on cement concrete road/paver blocks surface. All labour materials with special aggregates etc, as specified in B.S. part-I & II 1989 and carrying out the marking on any road on center line and other lane marking continuous for intermittent 10cm or 15cm width and also pedestrian crossings stripes as well as spraying further quality of glass beads of type II uniformly into a mono layer on to the hot paint line in quick succession of the paint spraying operation @ 250gms per sq.mt. area as directed and as per B.S./M.O.S.T. specification in white/yellow colour	Sq.Mt.	727.00	12.00	8,724.00
21	R2-RT-16-33	Providing and applying hot applied thermoplastic road marking material with glass beads extremely high skid resistance 2.5mm thick without primer coat (tack coat) on asphalt road surface. All labour materials with special aggregates etc, as specified in B.S. part-I & II 1989 and carrying out the marking on any road on center line and other lane marking continuous for intermittent 10cm or 15cm width and also pedestrian crossings stripes as well as spraying further quality of glass beads of type II uniformly into a mono layer on to the hot paint line in quick succession of the paint spraying operation @ 250gms per sq.mt. area as directed and as per B.S./M.O.S.T. specification in White /Yellow colour.	Sq.Mt.	662.00	3,566.30	23,60,890.60
22	R2-CS-MW-1-a	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 3.5 and above in foundation and plinth in:Cement mortar 1:3 (1 cement : 3 coarse sand)	Cu.Mt.	6,031.00	187.00	11,27,797.00
23	R2-SWD-58	Providing 20 mm thick cement plaster in cement mortar 1:2 including neat cement rendering (without water proofing compound) as specified & as directed by Engineer in Charge.	Sq.Mt.	376.00	1,890.00	7,10,640.00
24	R2-SWD-145	Supplying and fixing 0.56m internal dia circular C.I. airtightcover and frame weighing Between weighingminimum 208kg of material grade of min. FG 150conforming to IS 210:2009 and specification no SP-SWD-3 with the grade designation of HD 20 conforming to IS1726:1991.including testing as per CL 10 and inspectionas per CL.11 of IS 1726:1991,as per specification as perStandard Specification no SP-SWD-3 etc. complete, asspecified and as directed .	EA	23096.00	187.00	43,18,952.00

Sr.No.	Item CodeNo.	Description	Unit	Rate	Qty	Amount
25	R2-SWD-146	Supplying and fixing 1.20m x 0.90m internal size of rectangular C.I. air-tight cover and frame weighing minimum 910 kg of material grade of min. FG 150 conforming to IS 210:2009 and specification no SP-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991. including testing as per CL 10 and inspection as per CL.11 of IS 1726:1991, as per specification as per Standard Specification no SP-SWD-3, etc. complete, as specified and as directed by Engineer in Charge.	EA	94200.00	38.00	35,79,600.00
26	R2-SWD-148	Supplying and fixing 0.90m x 0.60m internal size of rectangular C.I. air-tight cover and frame weighing minimum 270 of material grade of min. FG 150 conforming to IS 210:2009 and specification no SP-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991 including testing as per CL 10 and inspection as per CL.11 of IS 1726:1991, as per specification as per Standard Specification no SP-SWD-3, etc. complete, as specified and as directed by Engineer in Charge.	EA	31371.00	113.00	35,44,923.00
27	R2-SWD-175	Providing & Fixing 0.60m X 0.50m clear internal size of M.S. Galvanised hinged type grating and frame (weighing minimum 71 kg) with minimum 75 microns zinc coating by hot dipped galvanising the MS grating and frame as per IS 2629. (The contractor shall furnish the certificate of galvanising from the Galvaniser.) including testing, inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers works, as per Standard Specification no SP-SWD-3 and as per drawing (Dwg No. MCGM/SWD/2013-03), etc complete as specified & as directed by Engineer in Charge.	Each	9328	187.00	17,44,336.00
28	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 formwork, 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 .)	Cu.Mt.	6,893.00	375.00	25,84,875.00
29	R2-RW-3-11	Providing & fixing 80 mm thick interlocking unishape concrete pavers (monolithic- single layer precast concrete blocks) of gray cement coloured in the carriageway having average crushing strength 50N/sq.m.m. as per technical specification, placed on average compacted thickness of 25mm, uniformly graded river sand cushioning with proper compacting with mechanical compactor with the proper level, grade and camber etc. complete as specified and as directed by the Engineer.	Sq.Mt.	871.00	141.00	1,22,811.00

Sr.No.	Item CodeNo.	Description	Unit	Rate	Qty	Amount
30	R2-RW-10-29	P/L R.M.C. M -20 C.C. Having having avg.compressive strength 24 Mpa procured from M.C.G.M. approved RMC plant including used of approved make plasticizer /retarder & transported by transit mixer & placing at work site ,compacting ,finishing curing etc.by contractors water &tarring the sides from work with hot bitumen as specified & directed by the Engineer (MINIMUM CEMENT CONTENT 260Kg/m3)	Cu.Mt.	7,055.00	1.00	7,055.00
31	R2-RW-10-63	Extra Over item of stencil concrete above M-20 in footpath Providing, applying and finishing the top surface of M-20 concrete with stamp/ stencil of approved pattern and colour, in accordance with manufacturer's specification of any approved brand of colour hardener @ of 3.5 kgs/m2; including floating of colour hardened over concrete surface with different types of floaters; including application of release agent @ of 0.15 kgs/m2, stamping over the concrete surface with stamping tools; including cleaning of surface with water and cutting of finished concrete; including application of two coats of acrylic based sealer for finishing. Colour hardener and release agent shall be tested for abrasion resistance for a depth of wear, should not be more than 0.025 mm. Coverage of sealer should not be more than 6.5 sq.m per one litre coat; including cost of skilled manpower, cutting machine, sprayer and all tools tackles for all activities; complete smooth & finish as per direction of Engineer-In-Charge.	Sq.Mt.	436.00	8.00	3,488.00
32	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 RW-10-33 transit mixer and placing at work site. Compacting finishing, initial curing by approved curing compound & Contractors water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.4 maximum)(vata for curring will be paid separately.) (MINIMUM CEMENT CONTENT 350 kg/m ³)	Cu.Mt.	7,968.00	1.00	7,968.00
						11,79,73,816.80
					Say	11,79,73,817.00

Sd/-
SE(Roads)City-A ward

Sd/-
AE(Roads)City-A ward

Sd/-
EE(Roads)City-I