

MUNICIPAL CORPORATION OF GREATER MUMBAI

ROAD DEPARTMENT



VOLUME-I

UNIFIED SCHEDULE OF RATES FOR

ROAD WORKS 2018

effective from 20.06.2018

A. LIST OF UNITS USED

Sr. No.	Units	Abbreviation symbol	Remark
1	1 Length (Running Meter)	Rmt	
2	Weight (Metric Tonne)	MT	
3	Weight Kilogram	Kg	
4	Time	Shift	Shift Refers to a time duration of 8 Hrs
5	Time (Hour)	Hr	
6	Quantity (Numbers)	Each/No.	Each refers to a single quantity per entity
7	Quantity (Lump sum)	LS	
8	Volume	Cum	
9	Area (Square Meter)	Sqm	
10	Litre	Ltr	
11	Cubic Centimeter	Cucm	

B. LIST OF ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ASTM	American Society for Testing and Materials
BS	British Standard published by the British Standards Institution
BOQ	Bill of Quantities forming part of the contract
CBR	California Bearing Ratio
IRC	Indian Road Congress
IS	Indian Standard published by the Bureau of Indian Standards
WC	Water Cement Ratio
CRRRI	Central Road Research Institute
UCS	Unconfined Compressive Strength
WBM	Water Bound Macadam
SAM	Stress Absorbing Membrane
SAMI	Stress Absorbing Membrane Interlayer
MoRTH	Ministry of Road Transport and Highways
PCC	Plain cement concrete
RCC	Reinforced cement concrete
PSC	Prestressed concrete
HYSD	High Yield Strength Deformed Bars
EJ	Expansion joints
FBEC	Fusion Bonded Epoxy Coating
RE	Reinforced Earth
ESU	Elastomeric slab unit

Schedule for Road Works

2018

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DESCRIPTION OF ITEMS FOR ROAD SOR

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
I	EARTH WORK ITEMS		
R2-RW-1-01	Scarifying the existing bituminous road surface to a depth of 150 mm, removing the scarified material, including transportation any where & bringing the existing road to proper grade, level & camber &/ as per super elevation, rolling with 10/12 Tonnes power roller & binding the scarified layer with stone dust/grit/ sand, watering, brushing, rolling, etc. complete as specified and directed by the Engineer.	Sqm	180
R2-RW-1-02	Removing the humps (including wavy portion of the bituminous surface) by chiselling, picking or by any means & transporting excavated material anywhere & dressing the same to proper level, grade & camber &/ super elevation complete as specified and directed by the Engineer.	Sqm	106
R2-RW-1-03	Bringing back the materials excavated from the work site of any kind of any size by any means & when directed upto a distance of 3Km, for filling / refilling in layers not exceeding 30 cm loose thickness as directed & specified (30% will be deducted for voids in earth & 40% for voids in boulders from lorry measurement) as specified and directed by the Engineer.	Cum	503
R2-RW-1-04	Levelling, watering & rolling with power roller weighing not less than 3 tonnes & preparing the ground to the required level, grade & camber as specified and as directed by the Engineer.	Sqm	5
R2-RW-1-05	Levelling, watering and rolling to 95% Standard Proctor Density with a power roller weighing not less than 10 tonnes and preparing the ground to the required grade and camber as specified and as directed by the Engineer.	Sqm	9.27
R2-RW-1-06	Levelling, watering and rolling to 95% Standard Proctor Density with a power roller weighing not less than 10 tonnes and preparing the ground to the required grade and camber for rolling in trenches as specified and as directed by the Engineer .	Sqm	18
R2-RW-1-07	P/L earth work in embankments &/ filling low-lying ground in layers not exceeding 25 cm in loose thickness & compacting each layer with a 10/12 tonnes power roller including levelling, watering etc. complete in conformity with the required lines, grades & cross sections & also cleaning & grubbing the ground etc. complete as per prevailing MCGM specifications for Roadworks clause no. 151.0	Cum	1422



ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-1-08	P/L earth work in embankments &/ filling low-lying grounds in layers not exceeding 25 cm in loose thickness & compacting each layer with a 10/12 tonnes power roller including levelling watering etc. complete in conformity with the required lines, grades & cross sections (Lab C.B.R. in soaked conditions shall not be less than 4) etc. including cleaning & grubbing the ground (The contractor should take note of the site conditions pertaining to creek lands under reference & should note that nothing extra whatsoever will be paid like diversion of water, the protective measures that may be necessary to be carried out to protect the embankment from water & settlement of earth.) Settlements will not be paid for the earth work and must be retained for consolidations for one season & settlement if any shall be ascertained & made up free of cost. The rate includes efforts for diversion of water, protection of embankments & also settlement of earth.etc. complete as per prevailing MCGM specifications for Roadworks clause no. 151.0.	Cum	1511
R2-RW-1-09	P/L a top layer of 15 cm compacted thickness of earth, rolling with 10/12 tonne power roller, watering etc. complete in conformity with the lines, grades & cross sections & camber super elevation (Lab C.B.R. in soaked condition shall not be less than 10) including clearing & grubbing the ground etc. complete (including stabilisation if necessary.) as per prevailing MCGM specifications for Roadworks clause no. 151.0	Cum	1535
R2-RW-1-10	To carry out earth work in embankment or filling in low lying ground with municipal earth, debris in layers not exceeding 25 cm in loose thickness & compacting each layer with 10/12 tonnes power roller, watering etc. in conformity with the lines, grades & cross sections including clearing & grubbing the ground etc. complete as specified and as directed by the Engineer and as per prevailing MCGM specifications for Roadworks clause no. 151.0. (Transport of Municipal earth will be paid separately)	Cum	184
R2-RW-1-11	Filling in trenches with municipal earth materials etc. in layers not exceeding 25 cm in loose thickness, watering etc. compacting by means of plate vibrator or a power roller to a depth not exceeding 2 m etc. complete as per prevailing MCGM specifications for Roadworks clause no. 151.0.	Cum	141
R2-RW-1-12	Preparing stabilised soil base 15 cm compacted thickness including excavation, adding the required sand, lime or other suitable material mixed & laid complete in regular lines to conform with the required grade, camber & cross section, rolling etc. complete as specified & as directed (C.B.R. under soaked condition shall not be less than 10) with soil available on site as per prevailing MCGM specifications for Roadworks clause no. 151.0	Sqm	207
R2-RW-1-13	Levelling, watering & rolling by vibratory roller weighing not less than 10 tonnes & preparing the ground to the required grade & camber etc. complete as specified and as directed by the Engineer as per prevailing MCGM specifications for Roadworks.	Sqm	9.83
R2-RW-1-14	Use of sensor paver for laying as per prevailing MCGM specifications for Roadworks.	Sqm	15



ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-1-15	Use of ordinary paver for laying as per prevailing MCGM specifications for Roadworks.	Sqm	9
R2-RW-1-16	Extra for using sensor paver instead of ordinary paver as per prevailing MCGM specifications for Roadworks.	Sqm	6
R2-RW-1-17	Extra for using vibratory Roller instead of power roller for compaction as per prevailing MCGM specifications for Roadworks.	Sqm	1
R2-RW-1-18	Levelling, watering & rolling by vibratory roller IDD-22 weighing not less than 10 tonnes & preparing the ground to the required grade & camber (only to be used for reinstatement of trench in road works) as per prevailing MCGM specifications for Roadworks.	Sqm	19
R2-RW-1-19	Extra over for using vibratory roller IDD-22 at time of reinstatement of trench in road work as per prevailing MCGM specifications for Roadworks.	Sqm	1
II	SUBBASE AND BASE ITEMS		
R2-RW-2-01	Supplying blue trap stones of approved quality & providing the same in rubble packing of 25 cm thick to the required level & camber, filling in voids with chips & 60 mm metal etc. including spreading over the rubble 60 mm metal 75 mm thick, compacting to the satisfaction of the Engineer by a roller weighing not less than 10 tonnes etc. complete as specified & as directed by the Engineer .	Sqm	499
R2-RW-2-02	Supplying blue trap stones of approved quality & providing the same in rubble packing of 25 cm thick to the required grade, level & camber, filling in voids with chips & 60 mm metal etc. compacting using mechanical vibrating compactor / 8-10 MT Roller etc. complete as specified & as directed by the Engineer .	Sqm	352
R2-RW-2-03	Laying hand set rubble packing (using municipal rubble) of 25 cm thick to the required grade, level & camber, filling in the voids with chips & 60 mm Municipal metal including spreading over the rubble layer 50 mm to 60 mm size municipal metal for 75 mm thick compacted to the satisfaction of the Engineer by a roller weighing not less than 10 tonnes etc. as specified & as directed by the Engineer .	Sqm	114
R2-RW-2-04	Laying hand set rubble packing (using municipal rubble) of 25 cm thick to the required level & camber, filling in the voids with new chips & 60 mm metal etc. including spreading over the rubble layer 60 mm. Size new metal 75 mm thick compacting to the satisfaction of the Engineer by a roller weighing not less than 10 tonnes as specified & as directed by the Engineer .	Sqm	232
R2-RW-2-05	Providing dry rubble packing behind the abutment retaining & wing wall in horizontal layers etc. complete as specified & as directed by the Engineer .	Cum	881

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-2-06	Breaking concrete pieces available on site into 75 mm pieces, spreading the same to a thickness of 15 cm and compacting to the satisfaction of the Engineer, by a static roller weighing not less than 10 tonnes including watering, binding with stone dust, etc. complete and making the layer water bound as per prevailing MCGM specifications for Roadworks clause no.235	Sqm	104
R2-RW-2-07	Breaking asphalt cakes available on site into 90 mm pieces and spreading the same to a thickness of 15 cm. and compacting to the satisfaction of the Engineer, by a static roller weighing not less than 10 tonnes. Including binding with stone powder complete as directed.	Sqm	94
R2-RW-2-08	Providing & laying sub base 20 cm compacted (K.T.R.) thick made of metal obtained from rock having AIV of not more than 40% (metal varying in size from 90 mm to 45 mm) and compacting the same to the satisfaction of the Engineer laid complete in two layers to the required level and camber, rolling with 10/12 tonnes roller, interstices being filled with stone dust, watering, rolling and making each layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220.	Sqm	362
R2-RW-2-09	Providing and laying sub-base 10 cm compacted thickness made up of metal obtained from rock having AIV of not more than 40% (metal varying in size from 90 mm to 45 mm) and compacting the same to satisfaction of the engineer, laid complete in one layer to the required level and camber, rolling with 10/12 tonnes roller, interstices being filled in with stone dust, watering, rolling &/ making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220.	Sqm	182
R2-RW-2-10	Spreading Municipal material such as broken concrete, asphalt pieces 90 mm to 45 mm metal in a layer of 10 cm. Compacted thickness and compacting with 10/12 tonnes power roller to the satisfaction of the Engineer, binding with stone dust, watering, rolling and making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220.	Sqm	95
R2-RW-2-11	Breaking Municipal rubble stone available on site to 90 mm to 45 mm metal & laying the same in a sub-base of 10 cm. thick compacting to the satisfaction of the Engineer, by a 10/12 tonnes power roller, laid complete in ONE layer to the required level & camber, binding with stone dust, watering, rolling & making layer water bound etc. complete as per prevailing MCGM specifications for Roadworks Clause no.220.	Sqm	95
R2-RW-2-12	Breaking Municipal rubble stone available on site to 90 mm to 45 mm metal & laying the same in a sub-base compacting to 20cm. in two layers (each 100 mm thick) & to the satisfaction of the Engineer, by a 10/12 tonnes power roller, laid complete in one layer to the required level & camber, binding with stone dust, watering, rolling & making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220.	Sqm	189

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-2-13	Supplying & spreading 60 mm metal compacting the same to 10 cm. To the satisfaction of the Engineer by a roller weighing not less than 10 tonnes to the required grade, level & camber including binding with grit, sand, stone dust, watering, rolling etc. complete & making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.235.2.5.	Sqm	171
R2-RW-2-14	Supplying & spreading 60 mm metal compacting the same to 7.5 cm. to the satisfaction of the Engineer, by a roller weighing not less than 10 tonnes to the required grade, level and camber including binding with grit, sand, stone dust, watering, rolling etc. complete and making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220.	Sqm	135
R2-RW-2-15	Spreading Municipal 60 mm size metal available on site compacting to 7.5 cm. the same to the satisfaction of the Engineer by roller weighing not less than 10 tonnes to the required grade/ level & camber including binding with sand/ stone dust & grit & watering, levelling, rolling etc. & making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220.	Sqm	59
R2-RW-2-16	Breaking municipal rubble available on site to form 60 mm size metal & depositing the same in neat stacks as directed (depot or lorry measurement will be considered without deduction for voids) as per prevailing MCGM specifications for Roadworks, Clause no.220.	Cum	335
R2-RW-2-17	Breaking municipal rubble available on site into 60 mm size metal spreading the same to the thickness compacting to 10 cm. & to the satisfaction of the Engineer by a roller weighing not less than 10 tonnes to a proper grade, level & camber including binding with sand/stone dust or grit & watering, rolling etc. complete & making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220.	Sqm	71
R2-RW-2-18	Breaking municipal rubble available on site into 60 mm size metal, spreading the same to the thickness compacting to 7.5 cm & to the satisfaction of the Engineer, by a roller weighing not less than 10 tonnes to a proper grade, level & camber including binding with sand/stone dust or grit & watering, rolling etc. complete & making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220.	Sqm	60
R2-RW-2-19	Ramming & compacting the metal, concrete pieces, asphalt cakes with a heavy rammer weighing not less than 15kg. or a frog rammer including watering, levelling etc. complete.	Sqm	13

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-2-20	Providing & laying, spreading & compacting graded crushed stone aggregate to wet mix macadam to the satisfaction of Engineer 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 75 mm to 100 mm (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 53 mm to 75 micron as per prevailing MCGM specifications for Roadworks clause no.240).	Cum	2937
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 100 mm to 75 mm (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 Roadworks clause no.210).	Cum	2547
R2-RW-2-22	Rebate for not using motor grader / paver for laying of Granular Sub base in R2-RW-2.21.	Cum	-93
R2-RW-2-23	Providing and laying sub-base made up of metal obtained from rock having AIV of not more than 40% (metal varying in size from 90 mm to 45 mm) and compacting the same to 7.5 to 10 cm thick & to the satisfaction of the engineer, laid complete in one layer to the required level and camber, rolling with 10/12 tonnes roller, interstices being filled in with stone dust, watering, rolling and/ making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220. (VOLUMETRIC MEASUREMENTS TO BE RECORDED BY LEVELS ONLY)	Cum	2110
R2-RW-2-24	Supplying & spreading 60 mm metal compacting the same to 7.5 to 10 cm to the satisfaction of the Engineer by a roller weighing not less than 10 tonnes to the required grade, level & camber including binding with grit, sand stone dust, watering rolling etc. complete & making the layer water bound as per prevailing MCGM specifications for Roadworks Clause no.220. (VOLUMETRIC MEASUREMENTS TO BE RECORDED BY LEVELS ONLY)	Cum	2169

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
III	PAVER ITEMS		
R2-RW-3-01	P/F shahabad stone pavement 38 mm. to 60 mm. thick of approved quality in traffic islands or wherever directed in City/Subs. Including necessary base of cement concrete M-10 (1:3:6) upto any required depth but not less than 100 mm thick, sand cushioning 25 mm below tiles & finishing joints of the shahabad stone tiles with C.M. 1:2 and including pointing, curing etc. complete as specified & as directed.	Sqm	1249
R2-RW-3-02	Removing, cleaning off old mortar & Carting away shahabad stone pavement upto a distance of 3 Km. & stacking the same neatly as directed.	Sqm	41
R2-RW-3-03	Extra over above for an additional distance of every 1Km. or part thereof.	Sqm	1.6
R2-RW-3-04	Removing & resetting blue stone pavement in 1:6 C.M. on a 10 cm. thick M-10 C.C. bedding, including filling in joints with 1:2 C.M. & cement pointing, curing etc.	Sqm	843
R2-RW-3-05	Removing & resetting blue stone pavement in 1:6 C.M. on a cushion of sand 20 mm to 25 mm thick on 10 cm thick M-10 C.C. bedding, including filling in joints with 1:2 C.M. & cement pointing, curing etc. complete.	Sqm	836
R2-RW-3-06	Removing, cleaning off old mortar & carting away blue stone pavement upto a distance of 3 Km. & stacking the same neatly as directed.	Sqm	41
R2-RW-3-07	Extra over above for an additional distance of every 1 Km or part thereof.	Sqm	1.55
R2-RW-3-08	P/L Precast M-20 plain C.C. slabs, 10 cm thick in pavement over 10 cm thick M-10 C.C. bed, including filling in the joints with 1:2 C.M. & pointing, curing etc. complete.	Sqm	1531
R2-RW-3-09	P/L Precast M-20 reinforced C.C. slabs, 10 cm thick over M-10 C.C. bedding 10 cm thick, including filling in the joints with 1:2 C.M. & pointing, curing etc. complete.	Sqm	1900
R2-RW-3-10	P/L thick Precast M-20 plain C.C. slabs 5 cm thick, in pavement on M-10 C.C. bedding 10 cm thick including filling in the joints with 1:2 C.M. & pointing, curing etc. complete.	Sqm	1117
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 50 N/mm ² as per technical specifications 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.	Sqm	871

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-12	Providing & fixing 60 mm thick interlocking unishape concrete pavers (monolithic- single layer precast concrete blocks) in grey cement having average crushing strength of not less than 40 N/mm ² as per technical specifications 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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	772
R2-RW-3-13	Removing & refixing interlocking concrete pavers of 80 mm thick, of any size, shape and colour considering 10% breakage area of paver block while removing the same from position and replacing the same by new paver blocks having average crushing strength not less than 50 N/mm ² as per technical specifications 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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	225
R2-RW-3-14	Removing & refixing interlocking concrete pavers of 60 mm thick, of any size, shape and colour considering 10% breakage area of paver block while removing same from position and replacing the same by new paver blocks having average crushing strength of not less than 40 N/mm ² as per technical specifications 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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	215
R2-RW-3-15	Providing & Fixing 80 mm thick unishape grey cement concrete interlocking pavers in the carriageway (monolithic-single layer precast concrete blocks) in Red (Terra Cotta), Black, Brown or any colour with pigment @ 3% by weight of cement having average crushing strength of not less than 50 N/mm ² as per technical specifications 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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	927
R2-RW-3-16	Providing & Fixing 60 mm thick unishape grey cement concrete interlocking pavers in the footpath with pigment @ 3% by weight of cement (monolithic-single layer precast concrete blocks manufactured in grey cement only) in Red (Terra Cotta), Black, Brown or any colour having average crushing strength not less than 40 N/mm ² as per technical specifications 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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	901

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-17	Providing & fixing in the footpath, 60 mm thick Lacquer coated (Reflective) interlocking grey cement concrete pavers in Red (Terra Cotta), Black, Brown, lemon yellow or any colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 40 N/mm ² manufactured in double layer precast concrete blocks as per technical specifications and IS CODE 15658:2006. The top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8 mm size sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra voilete stabilized pigment @ 5% by weight of cement and should be coated with lacquer having hard, high abrasive resistance and water repellent.The bottom layer should be 45 to 48 mm thick having 12 mm size sieve 100% passing aggregate as per technical specifications, placed on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	858
R2-RW-3-18	Providing & fixing in the carriageway 80 mm thick grey cement concrete Lacquer coated (Reflective) interlocking pavers in Red (Terra Cotta), Lemon Yellow, Bright Yellow or any colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 50 N/mm ² manufactured in double layer precast concrete blocks as per technical specifications and IS CODE 15658:2006. The top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8 mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra voilete stabilized pigment @ 5% by weight of white cement and should be coated with lacquer having hard, high abrasive resistance and water repellent.The bottom layer should be 65 to 68 mm thick having 12 mm sieve 100% passing aggregate as per technical specifications, placed on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1042
R2-RW-3-19	Providing & fixing in the carriageway 100 mm thick interlocking concrete unishape pavers (monolithic- single layer precast concrete blocks) of grey cement coloured having average crushing strength not less than 50 N/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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1054

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-20	Providing & Fixing in the carriageway interlocking 100 mm thick grey cement concrete unishape pavers in Red (Terra Cotta), Black, Brown or any colour unishape (monolithic-single layer precast concrete blocks) with pigment @ 3% by weight of cement having average crushing strength of not less than 50 N/mm ² as per technical specifications 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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1213
R2-RW-3-21	Removing & refixing interlocking concrete pavers of 100 mm thick, of any size, shape and colour considering 10% breakage area of paver block while removing same from position and replacing the same by new paver blocks having average crushing strength not less than 50 N/mm ² as per technical specifications 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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	251
R2-RW-3-22	Removing the paver blocks of any thickness, size & colour from carriage way or footpath & transporting the same to ward depot or any where in MCGM limit. The paver blocks shall be stacked neatly at specified locations etc. complete as specified and as directed by the Engineer.	Sqm	157
R2-RW-3-23	Transporting & fixing the available municipal paver blocks having any type, size, shape, colour & thickness etc. on roads & footpaths. The paver blocks shall be placed on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer. (Rate is inclusive of transporting, loading and unloading of paver blocks from ward depot or anywhere in MCGM limit to site and fixing the same etc.)	Sqm	240

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-24	<p>Providing & fixing in the footpath, 60 mm thick Lacquer coated (Reflective) interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown, Lemon Yellow or any colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 40 N/mm² as per technical specifications and IS CODE 15658:2006; manufactured in double layer precast concrete blocks. The top layer of paver block should be 12 to 15 mm thick and consistinf of cubical shape stone aggregate 8 mm size sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @ 5% by weight of white cement and should be coated with lacquer having hard, high abrasive resistance and water repellent. The bottom layer in grey cement should be 45 to 48 mm thick having 12 mm size sieve 100% passing aggregates as per technical specifications, placed on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.</p>	Sqm	927
R2-RW-3-25	<p>Providing & fixing in the footpath, 80 mm thick Lacquer coated (Reflective) interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown, Lemon Yellow or any colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 50 N/mm² as per technical specifications and IS CODE 15658:2006; manufactured in double layer precast concrete blocks. The top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8 mm size sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @ 5% by weight of white cement and should be coated with lacquer having hard, high abrasive resistance and water repellent. The bottom layer in grey cement should be 65 to 68 mm thick having 12 mm size sieve 100% passing aggregates as per technical specifications, placed on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.</p>	Sqm	1104

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-26	Providing & fixing in the footpath Interlocking concrete paver block 60 mm thick Beganit in grey/Black colour with Stone texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 40 N/mm ² as per technical specifications and IS CODE 15658:2006; manufactured in double layer Interlocking concrete paver blocks Beganit 12 to 15 mm thick and consisting of cubical shape Quartz stone aggregate 8 mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand. The bottom layer should be 45 to 48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1538
R2-RW-3-27	Providing & fixing in the footpath Concrete Paving Slabs (Flagstone) 400 X400 X60 mm thick or any approved size in grey or any specified colour with shot blasted texture or any approved texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 40 N/mm ² as per technical specifications and IS CODE 15658:2006; manufactured in double layer precast concrete Paving Slabs (Flagstone) 12 to 15 mm thick and consisting of cubical shape Quartz stone aggregate 8 mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand .The bottom layer should be 45 to 48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1213
R2-RW-3-28	Providing & fixing in the footpath Concrete Paver blocks 200 X200 X60 mm thick or any approved size in grey or any specified colour with shot blasted texture or any approved texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 40 N/mm ² as per technical specifications and IS CODE 15658:2006; manufactured in double layer precast concrete Paver blocks 12 to 15 mm thick in top layer and consisting of cubical shape Quartz stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve, silica sand. The bottom layer should be 45 to 48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1042

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-29	Providing & fixing in the footpath Concrete Paver blocks 200 X 200X 80mm thick or any approved size in grey or any specified colour with shot blasted texture or any approved texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 50 N/mm ² as per technical specifications and IS CODE 15658:2006 manufactured in double layer precast concrete Paver blocks 12 to 15 mm thick top layer and consisting of cubical shape Quartz stone aggregate 8 mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand. The bottom layer should be 65 to 68 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1717
R2-RW-3-30	Providing & fixing in the footpath Concrete cobbles 100 X100 X60 mm thick or in any approved size in Grey colour or in any specified colour with shot blasted texture or any approved texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 40 N/mm ² as per technical specifications and IS CODE 15658:2006; manufactured in double layer precast concrete Concrete cobbles, 12 to 15 mm thick top layer and consisting of cubical shape Quartz stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve, silica sand. The bottom layer should be 45 to 48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1058
R2-RW-3-31	Providing & fixing in the carriageway/footpath, 60 mm thick Heritage paver interlocking white cement concrete pavers in red (terra Cotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of approved pattern/ shape and color, having average crushing strength not less than 40 N/mm ² as per technical specifications and IS CODE15658:2006; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8 mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @ 5% by weight of cement. The bottom layer should be 45 to 48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	2335

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-32	Providing & fixing in the carriageway, 80 mm thick Heritage paver interlocking white cement concrete pavers in red (terra Cotta), black, brown, lemon color with vermeticular or any antiskid texture on top surface of aproved pattern/shape and color having average crushing strength not less than 50 N/mm ² as per technical specifications and IS CODE 15658:2006; manufactured in double layer precast concrete blocks the top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8 mm sieve 100% passing and retain on 4.75 mm size sieve, silica sand and with pure iron oxide ultra violet stabilized pigment @ 5% by weight of cement. The bottom layer should be 65 to 68 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	3039
R2-RW-3-33	Supply of shot blasted machine cut, coloured Granite of size 200 x 200 x 40 mm thick to be fixed on prepared sub-base on a bed of min. 40 mm thick cushioning in C.M. 1:4 including neat cement float etc. filling of joints in C.M. 1:2 with grey cement to match the colour of cobble stone in the required pattern, design and as directed by the Engineer incharge, including cleaning, curing etc. complete as specified and as directed by the Engineer.	Sqm	2556
R2-RW-3-34	Providing & fixing in the carriageway/ footpath Vitrified Ceramic Topping Paver Blocks of size 150 x 150 x 80 mm thick in various colour combinations having average crushing strength not less than 50 N/mm ² as per technical specifications and IS Code 15658:2006 & vitrified topping of 12 to 15 mm.The bottom layer should be 65 to 68 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1500
R2-RW-3-35	Providing & fixing in the carriageway/ footpath Vitrified Ceramic Topping Paver Blocks of size 150 x 150 x 60 mm thick in various colour combinations having average crushing strength not less than 40 N/mm ² as per technical specifications and IS Code 15658:2006 & vitrified topping of 12 to 15mm.The bottom layer should be 45 to 48 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1214

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-36	Providing & fixing in the footpath Concrete cobbles 150 X150 X80 mm thick in Grey colour or any approved size in grey or any specified colour with shot blasted texture or any approved texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 50 N/mm ² as per technical specifications; manufactured in double layer precast concrete cobbles, 12 to 15 mm thick top layer and consisting of cubical shape Quartz stone aggregate 8 mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand. The bottom layer should be 65 to 68 mm thick in grey cement having 12 mm sieve 100% passing aggregates as per technical specifications, rested on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	1806
R2-RW-3-37	Providing and laying RED & BLACK GRANITE cobble stones of 100 mm x 100 mm x 100 mm, 3 line dressing with 12 mm top layer in size of fine cut and well dressed in Grey colour in paving on a bed of min. 40 mm thick cushioning in C.M. 1:4 including neat cement float etc. filling of joints in C.M. 1:2 with grey cement to match the colour of cobble stone in the required pattern, design and as directed by the Engineer incharge, including cleaning, curing etc. complete.	Sqm	2593
R2-RW-3-38	Supply of hand finish top machine cut, 3 line dressing Cobble Stone in size: 100 x 100 x 100 mm in grey colour to be fixed on prepared sub-base with cement mortar 1:4, 40 mm thick and cement slurry, filling of joints in C.M. 1:2 with grey cement to match the colour of cobble stone in the required pattern, design and as directed by the Engineer incharge, including cleaning, curing etc. complete as specified and as directed by the Engineer. NOTE: THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.)	Sqm	2526
R2-RW-3-39	Providing & fixing in the footpath Combi-Paver having average crushing strength not less than 40 N/mm ² as per technical specifications and IS Code 15658:2006; shot blasted 60 mm thick in approved texture and colour and combination size 100 x 200, 125 x 200, 175 x 200, 225 x 200, 275 x 200 to be fixed on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer. NOTE: THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.)	Sqm	1711
R2-RW-3-40	Providing & fixing in the wall Stone colour Wall Tiles, Design- Aries in stone finish to be fixed in vertical wall with neat cement slurry in line and level, joints filled with color cement grouting & finishing etc. complete as specified and as directed by the Engineer. NOTE: THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.)	Sqm	1563

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-41	This item is deleted. Please refer to item no. R2-RW-3-41-a	-	0
R2-RW-3-41-a	Providing and fixing of cement concrete Precast Header of M-50 grade of size: 500 mm length x 325 mm height x 150 mm thick manufactured in wet press vacuum dewatering technology plant or equivalent with colour or any specified colour for Edge Restriction pimple finish for high visibility with excellent quality and finish and edges perfect and sharp. Including excavation in any soil except rock, laying a leveling course of M-15 grade RMC 100 mm. thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface as directed by engineer. (Header shall be procured from MCGM registered agencies). NOTE: THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.)	Rmt	1661
R2-RW-3-42	Providing and fixing of cement concrete Kerb Stone of M-25 grade in white cement with colour of size: 500 mm width x 325 height x 165 mm 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. Including excavation in any soil except rock, laying a leveling course of M-15 grade RMC 100 mm thick, to required slope (inclusive of form work) jointing in C.M.1:2 proportion flush to concrete surface, any shade as directed by engineer. (Kerbstones shall be procured from MCGM registered agencies). NOTE: THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.)	Rmt	1560
R2-RW-3-43	Removing & refixing interlocking concrete pavers of 80 mm thick, of any size, shape and colour 200 X200 X80 mm thick in grey colour with shot blasted texture on top surface, 80 mm thick Heritage paver interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown lemon colour with vermeticular or any antiskid texture on top surface,Vitrified Ceramic Topping Paver Blocks of size 150 x 150 x 80 mm thick in various colour combinations) (RW-3.29,3.32,3.34) considering 10% breakage area of paver block while removing same from position and replacing the same by new paver blocks having average crushing strength not less than 50 N/mm ² as per technical specifications 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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	350

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-3-44	Removing & refixing interlocking Concrete Paving Slabs (Flagstone) 400 X400 X60 mm thick in grey colour with shot blasted texture on top surface in various colour combinations (RW-3.27) considering 10% breakage area of paver block while removing same from position and replacing the same by new paver blocks having average crushing strength not less than 40 N/mm ² as per technical specifications 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 required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	259
R2-RW-3-45	Removing & refixing interlocking concrete pavers of 60 mm thick of any size, shape and colour (Beganit in grey/Black colour with Stone texture on top surface, 200 X200 X60 mm thick in grey colour with shot blasted texture on top surface, Concrete cobbles 100X100X60mm thick in Grey colour with shot blasted texture on top surface,60 mm thick Heritage paver interlocking white cement concrete pavers in red (Terra Cotta) Black, Brown lamen colour with vermeticular or any antiskid texture on top surface, Vitrified Ceramic Topping Paver Blocks of size 150 x 150 x 60 mm thick in various colour combination,combi-paver 60 mm) (RW-3.26,3.28,3.30,3.31,3.35,3.39) considering 10% breakage area of paver block while removing same from position and replacing same by new paver blocks having average crushing strength not less than 40 N/mm ² as per technical specification and IS Code 15658:2006; placed on average compacted thickness 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sqm	290
IV	Kerb Stone		
R2-RW-4-01	Providing & Fixing kerb stones 30 cm to 40 cm long, 15 cm wide, 38 cm deep medium dressed in all exposed surfaces, set in cement mortar 1:2 on a 15 cm thick and 25 cm wide RMC M-20 C.C. bed including filling the joints with 1:2 C.M. pointing, curing etc.complete.	Rmt	605
R2-RW-4-02	Removing & resetting kerb stones in 1:2 C.M. on new R.M.C.M-20 C.C. bed 15 cm, thick including filling the joints with 1:2 C.M. pointing, curing etc. complete.	Rmt	351
R2-RW-4-03	Removing existing kerb stones,cleaning off old mortar, carting away up to a distance of 2 K.M. and stacking the same as directed by the Engineer.	Rmt	32
R2-RW-4-04	Extra over above rates of carting for additional distance of every 2 KM. or part thereof .	Rmt	5
R2-RW-4-05	Cement pointing to existing kerb stones after taking out old mortar to a depth of 20 mm. including filling the joints with cement mortar 1:2 and curing etc. complete.	Rmt	20

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-4-06	Providing & fixing water tables of stone of size 30 cm wide and 10 cm thick, fairly dressed on a R.M.C.M-20 cement concrete bed 15 cm. thick, including filling in the joints, with cement mortar 1:2 cement pointing, curing etc. complete as specified and as directed by the Engineer.	Rmt	462
R2-RW-4-07	Removing & resetting water tables 30 cm wide on a new M-20 cement concrete bed 15 cm .thick including filling in the joints with C.M.1:2 and cement pointing, curing including removing the old cement bed, curing etc.complete.	Rmt	398
R2-RW-4-08	Removing existing water tables/cleaning off old mortar & carting away to the distance of 2 K.M. and stacking the same as directed by Engineer.	Rmt	32
R2-RW-4-09	Extra over and above for an additional distance of every 2 K.M. or part thereof.	Rmt	2.5
R2-RW-4-10	Providing and fixing single row of setts 15 cm to 25 cm long, 10 cm wide and 15 cm deep fair dressed on top and medium dressed on other sides on 15 cm thick and 15 cm wide R.M.C. M-20 C.C. bed including filling the joints with C.M. 1:2 and cement pointing, curing etc. complete.	Rmt	335
R2-RW-4-11	Removing and resetting single row of setts on a 15 cm. thick and 15 cm. wide R.M.C. M-20 C.C. bed including filling in the joints with C.M.1:2 and cement pointing, curing etc.complete.	Rmt	219
R2-RW-4-12	Providing and fixing double row of sett stones 15 cm. to 25 cm. long, 10 cm. wide and 15 cm. deep fair dressed on top and medium dressed on other sides on 15 cm. thick and 25 cm. wide on R.M.C. M-20 C.C. bed, including filling the joints with C.M. 1:2 and cement pointing and removing old concrete bed, curing etc.complete.	Rmt	620
R2-RW-4-13	Removing & resetting double row of sett stones on R.M.C. M-20 C.C. bed,15 cm. thick and 25 cm. wide including filling the joints with C.M.1:2 and cement pointing and removing old concrete bed, curing etc. complete.	Rmt	372
R2-RW-4-14	Removing existing sets, cleaning off old mortar and carting away to a distance of 2 KM and stacking the same as directed by the Engineer.	Rmt	49
R2-RW-4-15	Extra over above rate for a lead of every additional 2 KM or part thereof .	100 Rmt	123
V	BITUMINOUS ITEMS		
R2-RW-5-01	Supplying & spreading of one or more layers of compacted crushed coarse agg. with alternate application of bituminous binder & key aggregate with the requirements of MORTH, Rolling with 10/12 MT roller using VG-30 grade bitumen (1% Antistripping agent) to serve as base course and inconformity with the line, level and cross sections shown on the drawings or as directed by the Egg., thickness of individual course shall not exceed 75 mm. (As per prevailing MCGM specifications for Roadworks Clause No. 352)	Sqm	373

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-02	Supplying & spreading of one or more layers of compacted crushed coarse agg. with alternate application of bituminous binder & key aggregate with the requirements of MORTH, Rolling with 10/12 MT roller using VG-30 grade bitumen (1% Antistripping agent) to serve as base course and inconformity with the line, level and cross sections shown on the drawings or as directed by the Egg., thickness of individual course shall not exceed 50 mm. (As per prevailing MCGM specifications for Roadworks Clause No. 352)	Sqm	285
R2-RW-5-03	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted thickness of 40 mm using new material to the required grade, level and camber rolling with vibratory roller, power roller, pneumatic roller & using sensor paver etc. complete as specified and as directed with addition of lime filler 2% by weight of mix and anti stripping agent @ 1% of bitumen etc. (As per prevailing MCGM specifications for Roadworks Clause No. 364)	Sqm	441
R2-RW-5-04	P/L MINIMUM 30 mm thick hotmix Bituminous concrete with 6.00% of VG-30 grade bitumen using new material anywhere 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 specifications for Roadworks clause no.364)	Sqm	339
R2-RW-5-05	P/L Premix hot mixed Bituminous macadam with minimum 3.30% (with tolerance of +/-0.3) of VG-30 Bitumen by weight of mix to the required grade, level & camber, rolling with 10/12 tonnes power roller, vibratory roller & sensor paver complete & as specified & as directed, to thickness of 65 mm with antistripping agent 1% by weight of bitumen (using 30% reconditioned milling material) .(As per prevailing MCGM specifications for Roadworks Clause No. 380)	Sqm	370
R2-RW-5-06	P/L hot mixed graded Bituminous macadam with 3.30% (with tolerance of +/-0.3) of VG-30 Bitumen by weight of mix to the required grade, level & camber, rolling with 10/12 tonnes power roller, vibratory roller & sensor paver etc. complete as specified & as directed using grading II of MORTH & adding antistripping agent at the rate of 1% of bitumen by weight to a thickness of 65 mm.(using new materials) . (As per prevailing MCGM specifications for Roadworks Clause No.351)	Sqm	410

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-07	P/L hot mixed graded Bituminous macadam with 3.30% (with tolerance of +/-0.3) of VG-30 Bitumen by weight of mix using reconditioned milling material and adding antistripping agent at the rate of 1% of bitumen, by weight to the required thickness, to bring the road to proper level & camber rolling with power roller, Vibratory roller & sensor paver etc. (This item will be paid on volumetric basis by computing its dimensions by actual measurements). (Using reconditioned milling material 30%) (As per prevailing MCGM specifications for Roadworks Clause No. 380)	Cum	5691
R2-RW-5-08	P/L hot mixed graded Bituminous Macadam with 3.30% (with tolerance of +/-0.3) of VG-30 Bitumen by weight of mix using reconditioned milling material to the required grade, level & camber, rolling with 10/12 tonnes power roller, vibratory roller & sensor paver complete as specified & as directed to thickness of 75 mm with antistripping agent at the rate of 1% by weight of bitumen. (Using reconditioned milling material 30%) (As per prevailing MCGM specifications for Roadworks Clause No.380)	Sqm	427
R2-RW-5-09	P/L hot mixed graded Bituminous macadam with 3.30% (with tolerance of +/-0.3) of VG-30 Bitumen by weight of mix to the required grade, level and camber, rolling with 10/12 tones power roller, vibratory roller & sensor paver etc. complete as specified and as directed, using grading II of 'MoRTH" and adding antistripping agent at the rate of 1% of weight of bitumen) to thickness of 75 mm. (using new material) (As per prevailing MCGM specifications for Roadworks Clause No. 351)	Sqm	475
R2-RW-5-10	P/L hot mixed graded Bituminous macadam with 3.30% (with tolerance of +/-0.3) of VG-30 Bitumen by weight of mix to the required grade, level and camber, rolling with 10/12 tones power roller, vibratory roller & sensor paver etc. complete as specified and as directed, using grading II of 'MoRTH" and adding antistripping agent 1% of by weight of bitumen) do--do-- to thickness of 50 mm. (using new material) . (As per prevailing MCGM specifications for Roadworks Clause No. 351)	Sqm	315
R2-RW-5-11	P/L hot mixed graded Bituminous Macadam with 3.30% (with tolerance of +/-0.3) of VG-30. Bitumen by weight of mix using new material and adding antistripping agent at the rate of 1% of bitumen by weight, to the required thickness to bring the road to proper grade, level & camber, rolling with 10/12 tonnes power roller, vibratory roller & using sensor paver, etc. complete as specified & as directed. (This item will be used as levelling coarse & will be paid on volumetric basis by computing its unit Cu.M. dimensions by actual measurements.) (using new material) (As per prevailing MCGM specifications for Roadworks Clause No. 351)	Cum	6303

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-12	P/L hot mixed graded Bituminous Macadam with 3.30% (with tolerance of +/-0.3) of VG-30 Bitumen by weight of mix to the required grade, level & camber & rolling with 3 tonnes roller etc. complete as specified & as directed, using grading II of 'MoRTH' to a required thickness of 50 mm. (to be used in the case of footpath only). (As per prevailing MCGM specifications for Roadworks Clause No. 351)	Sqm	300
R2-RW-5-13	Supplying & laying of BITUMINOUS COLD MIXES work by using new material Rolling with power roller, vibratory roller & using sensor paver. (CUTBACK BITUMEN Grade-MC) as per Mix design, Morth 5th Revision April 2013 & prevailing MCGM specifications for Roadworks Clause no.317	Cum	10781
R2-RW-5-14	Supplying & laying of BITUMINOUS COLD MIXES work by using new material Rolling with power roller, vibratory roller & using sensor paver. (Bitumen-CATTIONIC EMULSION Grade-MS) as per Mix design, Morth 5th Revision April 2013 & prevailing MCGM specifications for Roadworks Clause no.317	Cum	10475
R2-RW-5-16	P/L hot mixed premix seal coat 10mm. thick with 5.65% (with tolerance of ± 0.3) of VG-30 Bitumen by weight of mix bitumen content including rolling by 8-10 T Vibratory Roller etc. complete.	Sqm	101
R2-RW-5-17	P/L TYPE A Seal Coat using Bitumen-VG-30 Grade including rolling by 8-10 T Vibratory Roller as per Mix design, MoRTH 5th revision April 2013 & prevailing MCGM specifications for Roadworks Clause no.370	Sqm	73
R2-RW-5-18	P/L hot mixed premix seal coat 10mm. thick with 5.65% with tolerance of ± 0.3) of VG-30 Bitumen by weight of mix bitumen content including rolling with 3 tone roller etc. complete as directed (to be used for footpath only) with antistripping agent 1% by weight of bitumen. (As per prevailing MCGM specifications for Roadworks Clause No. 370)	Sqm	91
R2-RW-5-19	P/L, compacting Open Graded Premix Carpet of 20 mm thickness in a single coarse composed suitable small size aggregate Pre-mixed with a bituminous binder content of 14.60 Kg/10 sqmt. on a previously prepared base in accordance with a requirement of MoRTHh 5th Revision 2013.(As per prevailing MCGM specifications for Roadworks clause no.360). Seal coat to be paid separately.	Sqm	138
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 directed for 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 specifications for Roadworks Clause No. 313, curing as per 313.5)	Sqm	57

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-21	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 9 to 12 Kg. of 10 Sqmt over prepared surface to receive bituminous mix by applying PRIMER with mechanical spray bitumen, including cleaning of road surface etc. completed, as directed for Medium 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 specifications for Roadworks Clause No. 313, curing as per 313.5)	Sqm	62
R2-RW-5-22	Providing and applying PRIME COAT with CATIONIC BITUMEN EMULSION (SS) @ 12 to 15 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 directed For High 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 specifications for Roadworks Clause No. 313,curing as per 313.5)	Sqm	72
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 directed For 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 specifications for Roadworks Clause No. 314, curing as per 314.3.4)	Sqm	33
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 directed for DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specifications for Roadworks Clause No. 314)	Sqm	35
R2-RW-5-25	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 directed for GRANULAR SURFACES Treated with PRIMER (As per prevailing MCGM specifications for Roadworks Clause No. 314)	Sqm	35

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-26	Providing and applying TACK COAT with CATIONIC BITUMEN EMULSION (RS) @ 0.30 to 0.35 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 directed For NON BITUMINOUS SURFACES CEMENT CONCRETE PAVEMENT (As per prevailing MCGM specifications for Roadworks Clause No. 314)	Sqm	37
R2-RW-5-27	Providing and applying TACK COAT with VG-30 grade bitumen @ 0.20 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 directed For NORMAL BITUMINOUS SURFACES (As per prevailing MCGM specifications for Roadworks Clause No. 314)	Sqm	32
R2-RW-5-28	Providing and applying TACK COAT with VG-30 grade bitumen @ 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 directed For DRY & HUNGRY BITUMINOUS SURFACES (As per prevailing MCGM specifications for Roadworks Clause No. 314)	Sqm	34
R2-RW-5-29	Providing and applying TACK COAT with bitumen VG-30 bitumen @ 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 directed For GRANULAR SURFACES Treated with PRIMER (As per prevailing MCGM specifications for Roadworks Clause No.314)	Sqm	34
R2-RW-5-30	Providing and applying TACK COAT with bitumen VG-30 bitumen @ 0.30 to 0.35 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 directed For NON BITUMINOUS SURFACES CEMENT CONCRETE PAVEMENT (As per prevailing MCGM specifications for Roadworks Clause No. 314)	Sqm	35
R2-RW-5-32	P/L Mastic Asphalt 25 mm. thick as per I.S. code No. 5317/2002.(As per prevailing MCGM specifications for Roadworks Clause No. 365)	Sqm	615
R2-RW-5-33	P/L Mastic Asphalt 40 mm. thick as per I.S. code No. 5317/2002.(As per prevailing MCGM specifications for Roadworks Clause No. 365)	Sqm	985
R2-RW-5-34	P/L Mastic Asphalt 50 mm. thick as per I.S. code No. 5317/2002. (As per prevailing MCGM specifications for Roadworks Clause No. 365) (for bridges)	Sqm	1231

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-36	P/L Premix Bituminous concrete with 6.00% content by weight of mix with polymer modified bitumen (surface coat to thickness of about 40 mm (compacted thickness) using new material to the required grade, level & camber rolling with vibratory roller & power roller, pneumatic roller & using sensor paver etc. complete as specified as directed with addition of lime filler etc. complete. (bitumen of grade PMB-40). (As per prevailing MCGM specifications for Roadworks clause no.364)	Sqm	465
R2-RW-5-37	P/L Minimum 30 mm Thick Bituminous concrete with 6.00% content by weight of mix polymer modified bitumen (PMB - 40 of grade VG-30) surface coat (compacted thickness) using new material to the required grade, level & camber rolling with power roller, vibratory roller, pneumatic roller & using sensor paver etc. complete as specified as directed with addition of lime filler etc. complete. (As per prevailing MCGM specifications for Roadworks clause no.364)	Sqm	349
R2-RW-5-38	P/L Premix Bituminous concrete with 6.00% rubberised modified bitumen surface coat to thickness of 40mm (compacted thickness) using new material to the required grade, level & camber rolling with vibratory roller, power roller & pneumatic roller as specified as directed with addition of lime filler etc. Complete. (bitumen of grade CRMB-60 of grade VG-30) (As per prevailing MCGM specifications for Roadworks clause no.364)	Sqm	419
R2-RW-5-39	P/L MINIMUM 30 mm thick Bituminous concrete with 6.00% content by weight of mix rubberised modified bitumen (CRMB-60 of grade VG-30) surface coat using new material to the required grade, level & camber using vibratory roller, power roller, pneumatic roller & using sensor paver, etc. complete as specified as directed with addition of lime filler etc. Complete. (As per prevailing MCGM specifications for Roadworks clause no.364)	Sqm	315
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 40 mm , 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 Roadworks clause no.364)	Sqm	450
R2-RW-5-41	P/L MINIMUM 30 mm compacted thick hot Premix Bituminous concrete with 6.00% of VG-40 grade bitumen using new material any where as directed including Rolling with 10/12 MT power, vibratory roller & sensor paver to the required line, level, camber with lime filler of 2% by weight & antistripping agent @ 1% of bitumen content by weight etc. complete. (As per prevailing MCGM specifications for Roadworks clause no.364)	Sqm	338
R2-RW-5-42	P/L hot Premix seal coat 10 mm thick including rolling etc. complete as specified & directed bitumen of VG-40 grade content average 5.65% by weight.	Sqm	108

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-43	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 65 mm. with antistripping agent at 1%by weight of bitumen using grading II of "MORTH" (As per prevailing MCGM specifications for Roadworks clause no.354)	Sqm	586
R2-RW-5-44	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 50 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specifications for Roadworks clause no.354)	Sqm	450
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 75 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specifications for Roadworks clause no.354)	Sqm	676
R2-RW-5-46	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 the required thickness with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specifications for Roadworks clause no.354)	Cum	9008
R2-RW-5-47	P/L hot Premix Dense 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 paver etc. complete as specified and as directed to thickness of 65 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specifications for Roadworks clause no.354)	Sqm	572
R2-RW-5-48	P/L hot Premix Dense 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 paver etc. 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"(As per prevailing MCGM specifications for Roadworks clause no.354)	Sqm	440
R2-RW-5-49	P/L hot Premix Dense 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 paver etc. complete as specified and as directed to thickness of 75 mm. with antistripping agent at 1% by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specifications for Roadworks clause no.354)	Sqm	660

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-50	P/L hot Premix Dense 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 paver etc. complete as specified and as directed to the required thickness with antistripping agent at 1%by weight of bitumen using grading II of "MORTH"(As per prevailing MCGM specifications for Roadworks clause no.354)	Cum	8797
R2-RW-5-51	P/L premix hot mix Bituminous concrete with 6.00% of VG-30 bitumen content by weight of mix surface coat to compacted to required thickness using new material to the required grade, level and camber rolling with power, vibratory roller pneumatic roller & sensor paver etc. complete as specified and as directed with addition of lime filler 2% and anti stripping agent @ 1% by weight of bitumen etc.(As per prevailing MCGM specifications for Roadworks clause no. 364)	Cum	10974
R2-RW-5-52	P/L premix hot mix Bituminous concrete with 6.00% of polymer modified bitumen (PMB-40 of grade VG-30) content by weight of mix surface coat to compacted to required thickness using new material to the required grade, level and camber rolling with power roller, vibratory roller, pneumatic roller & sensor paver etc. complete as specified and as directed with addition of lime filler 2% and anti stripping agent @ 1% by weight of bitumen etc.(As per prevailing MCGM specifications for Roadworks clause no.364)	Cum	11636
R2-RW-5-53	P/L premix hot mix Bituminous concrete with 6.00% of rubberised modified bitumen (CRMB-60 of grade VG-30) content by weight of mix surface coat to compacted to required thickness using new material to the required grade, level and camber rolling with power roller, vibratory roller, pneumatic roller & sensor paver etc. complete as specified and as directed with addition of lime filler 2% and anti stripping agent @ 1% by weight of bitumen etc.(As per prevailing MCGM specifications for Roadworks clause no.364)	Cum	10487
R2-RW-5-54	P/L premix hot mix Bituminous concrete with 6.00% of VG-40 grade bitumen content by weight of mix surface coat to compacted to required thickness using new material to the required grade, level and camber rolling with power roller, vibratory roller pneumatic roller & sensor paver etc. complete as specified and as directed with addition of lime filler 2% and anti stripping agent @ 1% by weight of bitumen etc.(As per prevailing MCGM specifications for Roadworks clause no.364)	Cum	11261
R2-RW-5-55	P/L premix hot mix for SEMI- DENSE BITUMINOUS CONCRETE work by using new material Rolling with power roller, vibratory roller, pneumatic roller, using sensor paver.(Bitumen – VG-30 Grade) As per Mix design Morth 5th Revision 2013 & prevailing MCGM specifications for Roadworks Clause no.363	Cum	9441

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-56	P/L CLOSE graded PREMIX CARPET with Cationic Bitumen Emulsion Grade (MS) compacted thickness of 20 mm. rolling with power roller & sensor paver as per Mix design, Morth 5th Revision 2013. (As per prevailing MCGM specifications for Roadworks (TYPE A) Clause no.362)	Sqm	130
R2-RW-5-57	P/L for CLOSE GRADED PREMIX CARPET (TYPE A) (MSS) with Bitumen Grade VG-30 compacted thickness of 20 mm. rolling with power roller & using sensor paver as per Mix design, Morth 5th Revision 2013 & prevailing MCGM specifications for Roadworks Clause no.363	Sqm	177
R2-RW-5-60	P/L for Open Graded Premix Carpet 20 mm thick using Paving Grade Bitumen VG-30 Rolling with power roller, vibratory roller & sensor paver, as per Mix design Morth 5th Revision 2013 & prevailing MCGM specifications for Roadworks clause no.361.	Sqm	127
R2-RW-5-61	P/L Dense Bituminous macadam using Recycled material , rolling with power roller, vibratory roller ,using sensor paver. (Bitumen -VG-30 Grade), as per Mix design, Morth 5th Revision 2013 & prevailing MCGM specifications for Roadworks clause no.380.	Cum	7750
R2-RW-5-62	E.O. for use of PNEUMATIC ROLLER for compacting Bituminous Concrete as specified & as directed.	Sqm	35
R2-RW-5-63	P/L mastic asphalt 40 mm thick with 10/20 grade bitumen including producing the same at computerised batch mix plant, transporting the same to site by means of mastic cookers, laying the same with mastic paver and including all necessary tools, labours & barricading, spreading of aggregates as antiskid measures by means over newly laid mastic asphalt as per MCGM specifications clause no. 365 of 'Roadwork' as directed by Engineer in charge (Note: The material specifications / gradation & content shall be as specified in the relevant I.S. Codes.)	Sqm	1660
R2-RW-5-64	P/L mastic asphalt 40 mm thick with 10/20 grade bitumen including producing the same at computerised batch mix plant, transporting the same to site by means of mastic cookers, laying the same without mastic paver and including all necessary tools, labours & barricading, spreading of aggregates as antiskid measures by means over newly laid mastic asphalt as per prevailing MCGM specifications clause no. 365 of 'Road work' as directed by Engineer in charge (Note: The material specifications / gradation & content shall be as specified in the relevant I.S. Codes.)	Sqm	1571
R2-RW-5-65	P/L mastic asphalt 25mm thick with 10/20 grade bitumen including producing the same at computerised batch mix plant, transporting the same to site by means of mastic cookers, laying the same with mastic paver and including all necessary tools, labours & barricading, spreading of aggregates as antiskid measures by means over newly laid mastic asphalt as per prevailing MCGM specifications clause no. 365 of 'Roadwork' as directed by Engineer in charge (Note: The material specifications / gradation & content shall be as specified in the relevant I.S. Codes.)	sqm	1079

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-69	Rebate for not using PNEUMATIC TYRE ROLLER INSTEAD OF POWER ROLLER USED for compaction of BITUMINOUS MIXES.	Sqm	-20
R2-RW-5-70	Rebate for not using VIBRATORY ROLLER INSTEAD OF POWER ROLLER used for compaction of BITUMINOUS MIXES.	Sqm	-1
R2-RW-5-71	Rebate for not using SENSOR PAVER INSTEAD OF ORDINARY PAVER USED for Laying of BITUMINOUS MIXES.	Sqm	-7
R2-RW-5-72	Rebate for not using PNEUMATIC TYRE ROLLER INSTEAD OF VIBRATORY ROLLER USED for compaction of BITUMINOUS MIXES	Sqm	-20
R2-RW-5-74	P/L hot premix Bituminous concrete with 5 to 6 % of bitumen grade VG-40, surface coat by mix design as per MORTH, having gradation of aggregates of grading 1, to the compacted thickness of 50 mm, 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 new Road Specifications clause no.364)	Sqm	568
R2-RW-5-75	This item is deleted. Please refer to item no. R2-RW-5-75-a	-	0
R2-RW-5-75-a	Supplying & laying of BITUMINOUS COLD MIXES work by using new material Rolling with power roller, vibratory roller & using sensor paver for repairing a pothole having depth upto 20 mm. (Bitumen – CATIONIC EMULSION Grade-MS), as per Mix design, Morth 5th Revision April 2013 & prevailing MCGM specifications for Roadworks Clause no.317.	Sqm	189
R2-RW-5-76	This item is deleted. Please refer to item no. R2-RW-5-76-a	-	0
R2-RW-5-76-a	Supplying & laying of BITUMINOUS COLD MIXES work by using new material Rolling with power roller, vibratory roller & using sensor paver for repairing a pothole having depth above 20 mm & upto 40 mm. (Bitumen–CATIONIC EMULSION Grade-MS), as per Mix design Morth 5th Revision April 2013 & prevailing MCGM specifications for Roadworks Clause no.317.	Sqm	377
R2-RW-5-77	This item is deleted. Please refer to item no. R2-RW-5-77-a	-	0
R2-RW-5-77-a	Supplying & laying of BITUMINOUS COLD MIXES work by using new material Rolling with power roller, vibratory roller for repair to pothole having depth above 40 mm and upto 100 mm (Bitumen – CATIONIC EMULSION Grade-MS), as per Mix design, Morth 5th Revision April 2013 & prevailing MCGM specifications for Roadworks Clause no.317. Minimum depth of cold mix should be 40 mm, applying tack coat / emulsion and remaining depth of pothole to be filled with sand, metal, Gravelly sand corresponding to Class II/III Grading of table 100.1 of prevailing Road Specifications for Roadworks and watering, ramming etc as complete as directed by the Engineer in charge.	Sqm	477
R2-RW-5-78	This item is deleted. Please refer to item no. R2-RW-5-78-a	-	0

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-5-78-a	Supplying & laying of BITUMINOUS COLD MIXES work by using new material Rolling with power roller, vibratory roller for repair to pothole having depth above 100 mm and upto 150 mm (Bitumen–CATIONIC EMULSION Grade-MS), as per Mix design, Morth 5th Revision April 2013 & prevailing MCGM specifications for Roadworks Clause no.317. Minimum depth of cold mix should be 40mm, applying tack coat / emulsion and remaining depth of pothole to be filled with sand, metal, Gravelly sand corresponding to Class II/III Grading of table 100.1 of new Road Specifications for Roadworks and watering, ramming etc as complete as directed by the Engineer in charge.	Sqm	561
VI	MASON		
R2-RW-6-01	Providing UCR in cement mortar 1:5 using municipal rubble etc. complete as specified including providing necessary expansion joint wherever required and as directed.	Cum	2511
R2-RW-6-02	Providing tuck/ bush in cement mortar 1:1 cement pointing to stone masonry after racking out old mortar of the masonry joint to a minimum depth equivalent to a width of the joint including neat cement rendering curing etc. Complete.	Sqm	145
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	1151
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
R2-RW-6-05	Raising or lowering rectangular manholes to the required level upto 30 cm including all materials, form work, brick work and with 16 cm thick M-15 cement concrete coping under frame & cover of manhole including curing etc. complete, as specified and as directed.	Each	2297
R2-RW-6-06	Removing the old C.I. circular frame & cover & delivering the same to any municipal depot or workshop, as directed.	Each	147

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
VII	MISCELLANEOUS ITEMS		
R2-RW-7-01	Removing & refixing traffic regulatory boards/ bus stop boards/ street name boards etc. in M-10 cement concrete, complete as directed.	Each	881
R2-RW-7-02	Removing traffic regulatory boards/ bus stop boards with brackets etc., to ward chowky complete, as directed.	Each	197
R2-RW-7-03	Removing & refixing wooden/ concrete bench as directed.	Each	2557
R2-RW-7-04	Demolishing existing masonry, structures, (above & below G.L.) & carting away serviceable materials to ward chowky & stacking the same separately, as directed. (Actual Volume of the masonry will be paid.)	Cum	708
R2-RW-7-05	Cutting down existing stone/ brick masonry compound walls, abutments, piers, wing-walls etc. including stacking the rubble, khandkies etc. in stack, as directed (Actual volume of structure will be paid.)	Cum	211
R2-RW-7-06	Demolishing existing C.G.I./ asbestos sheet structures & carting away serviceable materials, to ward chowky & stacking the same separately, as directed (Actual Volume of the structure will be paid.)	Cum	63
R2-RW-7-07	Removing existing barbed wire fencing/ pipe railing of any height, including posts & carting away the same to ward chowky & stacking the same neatly as directed.	Rmt	19
R2-RW-7-08	Breaking & removing existing cement concrete slab over culvert coping etc, by any means, complete as directed.	Cum	1315
R2-RW-7-09	Milling upto 60mm depth Asphaltic surface by using milling machine including transportation anywhere as directed. NOTE: For further passes of 60mm or part thereof same rate will be applicable.	Sqm	77
R2-RW-7-10	Milling upto 75mm depth Asphaltic surface by using milling machine including transportation anywhere as directed. (This item should be operated only when the milling in a single pass is required to be done more than 60mm depth.)	Sqm	82
R2-RW-7-11	Spreading the milled material available on site, 11cm thick, compacting the same by a roller not less than 10 tonnes, with required grade, level & camber.	Sqm	25
R2-RW-7-12	Spreading & rolling the milled material available on site, in footpath with a 3 tonnes roller anywhere, levelling the same to proper thickness, upto 50 mm with directed grade & camber.	Sqm	20
R2-RW-7-13	Supply of excavator-cum-loader machine on hire chargers, inclusive of diesel, lube oil, Cleaner, Driver etc.	shift	8645
R2-RW-7-14	Supply of dumper on hire charges inclusive of diesel, lube oil, Cleaner, Driver etc. without labourers.	shift	3325
R2-RW-7-15	Supply of Road Roller 8 to 10 M.T. capacity inclusive of diesel, lube oil, Cleaner, Driver etc.	shift	8512
R2-RW-7-16	Supply of Road Roller 3 M.T. capacity inclusive of diesel, lube oil, cleaner, driver etc.	shift	4722

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-7-17	Providing applying Yellow & Black road marking paint grade – I 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.	Rmt	50
R2-RW-7-18	Providing applying Yellow & Black road marking paint grade – I in 3 - coats including single coat of approved brand primer after cleaning of old surface of any type divider with brushing by wire brush as per relevant I. S. codes to satisfaction of Engineer in charge etc. complete.	Sqm	166
R2-RW-7-19	Transplantation of existing trees of girth of all dia. including uprooting and shifting of the tree and placing in pits of suitable size and after transplanting, removal of excavated earth to desired location, filling the pit with red earth, manure, watering etc. complete with all leads, lifts, including maintenance for 3 years. The item also includes back filling of the trench taken for exposing the root system of the tree proposed to be transplanted etc. complete as directed by Engineer-in-charge.	per No.	5526
R2-RW-7-20	Cutting down of tree having diameter above 50 mm & Upto 150 mm	Each	446
R2-RW-7-21	Cutting down of tree having diameter above 150 mm & Upto 300 mm	Each	3146
R2-RW-7-22	Cutting down of tree having diameter above 300 mm & Upto 450 mm	Each	5997
R2-RW-7-23	Cutting down of tree having diameter above 450 mm & Upto 600 mm	Each	8355
R2-RW-7-24	Cutting down of tree having diameter above 600 mm & Upto 900 mm	Each	11892
R2-RW-7-25	Cutting down of tree having diameter above 900 mm & Upto 1200 mm	Each	15532
R2-RW-7-26	Deposit with concerned authorities for cutting and transplanting of trees as per Government norms etc. complete as directed by Engineer in charge.	per No.	5526
R2-RW-7-27	Supplying, stacking & planting of approved trees of at least 1.0m, height above GL in excavated pit of size 1.2 m x 1.2m x 1.2m, at the site shown by the Engineer, backfilling the pit by putting the manure & soil and watering & maintaining for 3 years, including disposing the excavated earth etc. complete as directed by Engineer-in-charge.	per No.	2014
R2-RW-7-28	Excavation and dismantling of structures on roadway, dismantling the existing Bus shelters including sorting out the dismantled material, disposal of unserviceable material with all lift and leads etc. complete as directed by Engineer-in- charge.	per No.	6260
R2-RW-7-29	Excavation and dismantling of structures on roadway, shifting and relocating of essential utilities, street poles, signals, road sign boards, including taking necessary permission from the service providers/ authorities, including payment of necessary deposits and supervision charges, shifting charges etc. complete as directed by Engineer-in-charge. a) Street Poles	per No.	1229

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-7-30	Excavation and dismantling of structures on roadway, shifting and relocating of essential utilities, street poles, signals, road sign boards including taking necessary permission from the service providers/authorities including payment of necessary deposits and supervision charges, shifting charges etc. complete as directed by Engineer-in-charge. b) Traffic Signals	per No.	1229
R2-RW-7-31	Excavation and dismantling of structures on roadway, shifting and relocating of essential utilities, street poles, signals, road sign boards including taking necessary permission from the service providers/authorities including payment of necessary deposits and supervision charges, shifting charges etc. complete as directed by Engineer-in-charge. c) Road Sign Boards	per No.	327
R2-RW-7-32	Providing placing in position, levelling, fixing M 25 Grade R.C.C. pre-cast frame of size 1150 mm x 1150 mm x 150 mm and cover (2 Nos) of size 1000 mm x 500 mm x 75 mm in line, level over storm water drain as per design procured from approved manufacturer etc. Complete	SET	2896
R2-RW-7-33	Providing placing in position, levelling, fixing M 25 Grade R.C.C. pre-cast frame of size 1150 mm x 900 mm x 150 mm and cover (1 Nos) of size 1000 mm x 750 mm x 75 mm in line, level over storm water drain as per design procured from approved manufacturer etc. Complete.	SET	2235
R2-RW-7-34	Supply of M-25 CC steel fiber reinforced precast cover of size 1000 mm x 500 mm x 75 mm as per design procured from approved manufacturers etc. complete.	SET	755
R2-RW-7-35	Supply of M - 25 CC steel fiber reinforced precast cover of size 1000 mm x 750 mm x 75 mm as per design, procured from approved manufacturers etc. complete.	SET	1013
R2-RW-7-36	Barricading the trenches on traffic flow side with 1.60 mtr. height M.S. Angle post of 50 mm x 50 mm x 5 mm buried in half the depth in drum of 20 ltrs. capacity by 1:3:6 concrete spaced at 2.25 m centre to centre with 22 guage G.I. corrugated sheet of size 2.40 m x 0.75 m bolted to the M.S. Angle post and painted in yellow and black band with synthetic enamel paint as per traffic norms and as directed by the Engineers.	Rmt	169
R2-RW-7-37	To carry out total station survey of the road with reference to existing co-ordinate 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 20 mtr. intervals with levels at every 4 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 18.3 mtr wide road.	upto 500 mtr.	20182.5

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-7-38	To carry out total station survey of the road with reference to existing co-ordinate 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 20 mtr. intervals with levels at every 4 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 18.3 mtr wide road. Extra over and above for every 100 mtrs. and part thereof.	/100Mtr .	3900
R2-RW-7-39	To carry out total station survey of the road with reference to existing co-ordinate 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. From 18.30 to 27.45 mtr. wide road.	upto 500 mtr.	21190
R2-RW-7-40	To carry out total station survey of the road with reference to existing co-ordinate 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. From 18.30 to 27.45 mtr. wide road - Extra over and above for every 100 m & part thereof.	/100 Rmt	4238
R2-RW-7-41	To carry out total station survey of the road with reference to existing co-ordinate 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 from 27.45 mtr. to 36.60 mtr wide road.	upto 500 mtr.	22074
R2-RW-7-42	To carry out total station survey of the road with reference to existing co-ordinate 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. From 27.45 mtr. to 36.60 mtr wide road. Extra over and above for every 100 mtrs. and part thereof.	/100 Mtr.	4420

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-7-43	To carry out total station survey of the road with reference to existing co-ordinate 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. For roads wider than 36.6 mtr.	upto 500 mtr.	25220
R2-RW-7-44	To carry out total station survey of the road with reference to existing co-ordinate 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. For roads wider than 36.6 mtr. Extra over and above for every 100 mtrs. and part thereof.	per 100 mtr.	5044
R2-RW-7-45	Providing and fixing the barricading in double row with G.I. Sheets of 22 gauge manufactured by TATA Co. and JINDAL Co. fixed on 3 inch dia. (75mm.) wooden bullies which will be buried in existing road sufficently. Embossing of TATA/JINDAL Brand on G.I. Sheet shall be ensured before painting with yellow and black bands of synthetic enamel paint as per the traffic norms and as directed by the Engineer.	Rmt	570
R2-RW-7-46	Supplying and fixing 600 mm x 900 mm clear opening composite resin manhole cover of single cover design of approved brand with 12.5 ton load capacity, as per EN-124 standard. Covers & frame shall have SS nut bolt locking arrangement and top abrasion resistant layer of decorative granite finish. Abrasion resistance shall be conforming to IS-15658:2006 and permissible permanent set value of 6 mm after the application of 2/3 test load in five continuous applications as per EN-124. The testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing, inspection of material sample and finished product in presence of Engineers (2nos.) at Manufacturer's work, etc. complete as specified and as directed by Engineer-in-Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	No.	17543

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-7-47	Supplying and fixing 900 mm x 900 mm clear opening composite resin manhole cover with two cover design of approved brand with 12.5 ton load capacity, as per EN-124 standard. Covers & frame shall have SS Nut bolt locking arrangement and top abrasion resistant layer of decorative granite finish. Abrasion resistance shall be conforming to IS-15658:2006 and permissible permanent set value of 6mm for each cover, after application of 2/3 test load in five continuous applications as per EN-124. The testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing, inspection of material sample and finished product in presence of Engineers (2nos.) at Manufacturer's work place, etc. complete as specified and as directed by Engineer-in-Charge. (Inspection shall be as per guidelines of EN-124-2015 standard specifications.)	No.	23216
R2-RW-7-48	Supplying 600 mm x 900 mm clear opening composite resin manhole cover with two cover design, of approved brand with 12.5 ton load capacity, as per EN-124 standard. Covers & frame shall have SS Nut bolt locking arrangement and top abrasion resistant layer of decorative granite finish. Abrasion resistance shall be conforming to IS-15658:2006 and permissible permanent set value of 6mm for each cover, after application of 2/3 test load in five continuous applications as per EN-124. The testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing, inspection of material sample and finished product in presence of Engineers (2nos.) at Manufacturer's works, etc. complete as specified and as directed by Engineer-in-Charge. (Inspection shall be as per guidelines of EN-124-2015 standard specifications.)	No.	17337
R2-RW-7-49	Supplying 900 mm x900 mm clear opening composite resin manhole cover with two cover design, of approved brand with 12.5 ton load capacity, as per EN-124 standard. Covers & frame shall have SS Nut bolt locking arrangement and top abrasion resistant layer of decorative granite finish. Abrasion resistance shall be conforming to IS-15658:2006 and permissible permanent set value of 6mm for each cover, after application of 2/3 test load in five continuous applications as per EN-124. The testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing, inspection of material sample and finished product in presence of Engineers (2nos.) at Manufacturer's works place, etc. complete as specified and as directed by Engineer-in-Charge. (Inspection shall be as per guidelines of EN-124-2015 standard specifications.)	No.	22943

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-7-50	P/f Polyethylene plastic water/sand fillable Metro Barricades having approx. size 1840 mm X 440 mm X 1900 mm, (LxWxD), 32-35 Kgs empty wt. and tank capacity 100-120 lits., manufactured by M/s. B.D. Industries or equivalent ISO Certified Company having minimum experience of 3 years in manufacturing and supplying to the Govt./Semi Govt./Other reputed organisations alongwith necessary fixing arrangement as specified and directed by the Engineer-In-charge.	Rmt	547
R2-RW-7-51	P/f Polyethylene plastic water/ sand fillable Barricades having approx. size 2000 mm X 560 mm X 1000 mm, (LxWxD), 20-23 Kgs empty wt. and tank capacity 80-100 lits., manufactured by M/s. B.D. Industries or equivalent ISO Certified Company having minimum experience of 3 years in manufacturing and supplying to the Govt./Semi Govt./Other reputed organisations alongwith necessary fixing and interlocking arrangement as specified and directed by the Engineer-In-charge.	Rmt	366
R2-RW-7-52	P/f Polyethylene plastic water/sand fillable Metro Barricades having approx. size 1840 mm X 440 mm X 1900 mm, (LxWxD), 32-35 Kgs empty wt. and tank capacity 100-120 lits., manufactured by M/s. B.D. Industries or equivalent ISO Certified Company having minimum experience of 3 years in manufacturing and supplying to the Govt./Semi Govt./Other reputed organisations alongwith necessary fixing arrangement as specified and directed by the Engineer-In-charge. (Temporary Barricades for 10 days)	Rmt per 10 Days	70
R2-RW-7-53	P/f Polyethylene plastic water/ sand fillable Barricades having approx. size 2000 mm X 560 mm X 1000 mm, (LxWxD), 20-23 Kgs empty wt. and tank capacity 80-100 lits., manufactured by M/s. B.D. Industries or equivalent ISO Certified Company having minimum experience of 3 years in manufacturing and supplying to the Govt./ Semi Govt./ Other reputed organisations alongwith necessary fixing and interlocking arrangement as specified and directed by the Engineer-In-charge. (Temporary Barricades for 10 days)	Rmt per 10 Days	56
R2-RW-7-54	Providing and fabricating the structural steel barricade made out of 1.25 mm thk MS plates of size 2.5 m x 2 m, M. S. Angles ISA 40 mm x 40 mm x 5 mm, MS flat 40 mm x 5 mm thk and ISLB 250 mm x 125 mm as per IS 1161- I RHS/SHS rolled angle plates etc. (material as per IS 4923 Grade YST 241) of TATA Steel, Lloyd Steel, SAIL, Essar Steel approved in straight profile of all sizes, shapes and for all works including stiffeners, bolts and nuts, fillet/ butt welding, splicing, machine grinding of all member joints wherever required to give neat appearance, Fabricating to a curved or bent profile like arch or semi circular shape, fixing at site as directed etc. complete. Rate is including the entire logistics of transporting and other related activities for completing this item.	MT	1618

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
VIII	DUCTS AND PIPES		
R2-RW-8-01	P/L 150 mm dia. R.C.C. hume pipes, NP2 class, jointing, filling in 1:1 cement mortar, including plugging of both the ends with gunny bags, brick masonry in cement mortar 1:4 with plaster in cement mortar 1:4 & curing etc. complete, as specified as directed.	Rmt	454
R2-RW-8-02	P/L 250 mm dia. R.C.C. hume pipes, NP2 class, jointing, filling in 1:1 cement mortar, including plugging of both the ends with gunny bags, brick masonry in cement mortar 1:4 with plaster in cement mortar 1:4 & curing etc. complete, as specified as directed.	Rmt	640
R2-RW-8-03	P/L 300 mm dia. R.C.C. hume pipes, NP2 class, jointing, filling in 1:1 cement mortar, including plugging of both the ends with gunny bags, brick masonry in cement mortar 1:4 with plaster in cement mortar 1:4 & curing etc. complete, as specified as directed.	Rmt	796
R2-RW-8-04	Providing & fixing in position M-20 cement concrete precast slab, 50 cm x 50 cm & 8 cm thick with the word "DUCT" inscribed over it including making good, the damaged surrounding surface etc. complete.	No.	326
X	CEMENT CONCRETE ROAD ITEMS		
R2-RW-10-01	Providing & laying M-40 cement concrete having avg. compressive strength 45 Mpa, flextural strength 4.8 Mpa including form work, mixing in non-tilting mechanical mixer (with Weigh Batcher), compacting by internal & surface vibrator, finishing, curing & tarring the sides of slabs with hot bitumen/ black Japan Paint as specified and as directed (cement mortar vata will be paid separately). Contractors have to make their own arrangement for potable water for construction/ curing, etc. & will be not paid separately.	Cum	5956
R2-RW-10-02	Providing & laying M-15 cement concrete avg. compressive strength 18.5 Mpa for foundation/ encasement/ pavement/ saddle including form work, mixing in non-tilting mechanical mixer (with Weigh Batcher), placing, compacting by internal & surface vibrator, finishing, curing etc. complete as specified and as directed (cement mortar vata will be paid separately). Contractors have to make their own arrangement of potable water for construction/ curing with hessain cloth, etc. & will be not paid separately for it.	Cum	5087
R2-RW-10-03	Providing & laying M-10 cement concrete avg. compressive strength 13.5 Mpa for foundation/ encasement/ pavements with or without chequered design including form work, mixing in non-tilting mechanical mixer (with Weigh Batcher), placing, vibrating with plate vibrator, needle vibrator, finishing, curing etc. complete as specified and as directed (cement mortar vata will be paid separately). Contractors have to make their own arrangement for potable water for construction/ curing with hessain cloth, etc. & will be not paid separately for it.	Cum	4802

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-04	Providing & laying cement concrete 1:5:10 (M8, ordinary concrete) for foundation/ encasement etc. (using metal No. I,II,III, in proportion as directed) with or without chequered design including form work wherever necessary, mixing in non-tilting mechanical mixer (with Weigh Batcher), placing, compacting by needle, plate vibrator & finishing curing as specified and as directed. Contractors have to make their own arrangement for potable water for construction/ curing with hessian cloth, etc. & will be not paid separately for it. (Minimum cement content 150 kg/m ³)	Cum	4008
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 & 6 mm 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) 23 cm x 27.50 cm.	Rmt	805
R2-RW-10-06	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: b) 23 cm. x 30 cm.	Rmt	844
R2-RW-10-11	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. A) transverse dummy joints 100 mm deep or 1/3 thickness of concrete pavement & 6 mm wide.	Rmt	59
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	Rmt	59
R2-RW-10-13	Providing & fixing in position premoulded asphalt filler 12 mm thick conforming to I.S. 1838 of 1983 for placing of the expansion joint, around manholes & water entrances, etc. put to the required depth & 25 mm below the camber, etc. complete as directed.	Sqm	352
R2-RW-10-14	Providing & placing 5mm thick thermocol in dummy & construction joints immediately after cutting of joints & removing the same before dressing of dummy & construction joints etc. complete, as directed.	Sqm	76

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
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 in 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.	/Each	31
R2-RW-10-16	Providing & fixing in position mild steel 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 directed.	MT	63226
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)	MT	62904
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.	Sqm	11
R2-RW-10-19	Providing & constructing cement vatas in c/m 1:10 at 0.6mx0.6m c/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.	Sqm	78
R2-RW-10-20	Resealing of joints of M-35 & above C.C. old pavement with hot applied sealing compounds conforming to IS-1834-1984 including cutting & removing existing damaged sealing compound by racking tool or mechanical means & clearing of joints with compressed air, application of primer for receiving hot sealing compound & providing layer of lime powder over hot sealing compound etc. complete as directed. A) Resealing 6mm-10mm wide transverse / longitudinal joints with Avg.depth of 40mm.	Rmt	66
R2-RW-10-21	Resealing of joints of M-35 & above C.C. old pavement with hot applied sealing compounds confirming to IS-1834-1984 including cutting & removing existing damaged sealing compound by raking tool or mechanical means & clearing of joints with compressed air, application of primer for receiving hot sealing compound & providing layer of lime powder over hot sealing compound etc. complete as directed. B) Resealing 11-15mm wide transverse / longitudinal joints with average depth of 40mm.	Rmt	83
R2-RW-10-22	Resealing of joints of M-35 & above C.C. old pavement with hot applied sealing compounds conforming to IS-1834-1984 including cutting & removing existing damaged sealing compound by raking tool or mechanical means & clearing of joints with compressed air, application of primer for receiving hot sealing compound & providing layer of lime powder over hot sealing compound etc. complete as directed. C) Resealing of 12-25mm wide expansion joints with avg. depth of 25mm.	Rmt	74

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-23	Dressing of M-35 & above new C.C.pavement, dummy, transverse, longitudinal & expansion joints with hot rubberised sealing compound conforming 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 or 1/3rd thickness of concrete pavement.	Rmt	92
R2-RW-10-24	Dressing of M-35 & above new C.C. pavement, dummy, transverse, longitudinal & expansion joints with hot rubberised sealing compound conforming 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. B) Sealing of 6mm wide longitudinal joint with depth of 100mm or 1/3rd thickness of concrete pavement.	Rmt	92
R2-RW-10-25	Dressing of M-35 & above new C.C.pavement, dummy, transverse, longitudinal & expansion joints with hot rubberised sealing compound conforming 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. C) Sealing of 25mm wide expansion joints with avg. depth of 12mm.	Rmt	60
R2-RW-10-26	P/L ready mix cement concrete of grade M-15 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 .)	Cum	6893
R2-RW-10-27	P/L R.M.C. M-10 C.C. having avg. compressive strength 13.5 Mpa in foundation/ encasement/ pavement with or without chequered design including formwork, mixing in batching plant, placing, vibrating with plate or needle vibrator, curing etc. complete as directed by the Engineer. Contractors has to make his own arrangement of water for curing with Hessian cloth etc. & will not be paid separately. (MINIMUM CEMENT CONTENT 220 Kg/m ³ .)	Cum	6452
R2-RW-10-28	Supply & filling sand metal, GRAVELLY SAND, corresponded to CLASS II/ CLASS III GRADING of TABLE 100.1 of MCGM road specifications for roadworks in trenches upto required depth & watering, ramming etc. complete as directed.	Cum	1905

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-29	P/L R.M.C.M-20 C.C. having avg. compressive strength 24 Mpa procured from M.C.G.M. approved R.M.C. plant including use of approved makes of plasticizer/ retarder & transported by transit mixer & placing at worksite, compacting, finishing curing etc. by contractor's water & tarring the sides of form work with hot bitumen as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 260 Kg/m ³ .)	Cum	7055
R2-RW-10-30	Providing & fixing pre-cast Beam in M 40 CC of size 23 cm x 23 cm x 35 cm in length set in 15 cm M15 C.C. filling of joints in 1:2, including excavation, form work, mixing compacting , curing etc. complete as specified and as directed.	No.	445
R2-RW-10-31	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 and compacting with vibratory roller of minimum 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 hessian 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 by the Engineer. A) Laying by manually.	Cum	4562
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 minimum 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 hessian 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 by the Engineer. B) Laying by paver with electronic sensor device	Cum	4481
R2-RW-10-33	Providing & laying M-40 C.C. avg. compressive strength 45 MPa and avg. flexural 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 of plasticizer/ retarder & Contractor's water with ice flakes and transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's 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)	Cum	7968



ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-34	P/L R.M.C. M-25 C.C.having avg. compressive strength 29 Mpa procured from M.C.G.M. approved R.M.C. plant including use of approved makes of plasticizer/ retarder & transported by transit mixer & placing at worksite, compacting, finishing, curing etc. by contractor's water & tarring the sides of form work with hot bitumen as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 300 kg/m ³)	Cum	7291
R2-RW-10-35	Providing and laying Dry Lean Concrete base including providing coarse and fine aggregate (with no fines i.e. 2.36 mm passing 0% to 5%) 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 and compacting with vibratory roller of minimum 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 hessian 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 by the Engineer. NOTE: This ITEM Should be OPERATED after obtaining prior SPECIFIC TECHNICAL SANCTION of Dir.(E.S.& P.) . A) Laying by manually .	Cum	4836
R2-RW-10-36	Providing and laying Dry Lean Concrete base including providing coarse and fine aggregate (with no fines i.e. 2.36 mm passing 0% to 5%) 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 minimum 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 hessian 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 by the Engineer. NOTE: This ITEM Should be OPERATED after obtaining prior SPECIFIC TECHNICAL SANCTION of Dir. (E.S.& P.). B) Laying by paver with electronic sensor device.	Cum	4755
R2-RW-10-37	Providing and fixing of the precast TREE GUARD KERB of M-20 C.C. of height 230mm, width 100mm, Length 400mm, finished neatly, compacting, curing, formwork etc. including bedding of M-10 C.C. procured from M.C.G.M. approved R.M.C. plant,10cm.thick, filling of jointing in C.M. 1:2 and painting the exposed surface with 3 coats of road marking paint, Grade I of approved colours and quality including single coat of approved brand primer including excavation in C.C, asphalt etc. as specified and as directed.	Rmt	471.07

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-38	Proving & placing sand drain blanket layer etc. complete, grading of sand to be used for sand blanket layers as filter material to act as a sand drain having grading requirement as per cl. No. 120, table no. 100.1, class-I in MCGM road specification for roadworks & refer cl. no. 133 for material requirement.	Cum	2438
R2-RW-10-39	Extra & over for providing and using special admixtures/ plasticizers to achieve required crushing & average flexural strength 5.0 Mpa of M40 grade concrete in 7 days. NOTE :THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.). NOTE: FOR SPECIAL ADMIXTURES ITEMS SUCH AS ELKEM MICROSILICA, POLYPROPELYNE FIBER, BSF GLANIUM SKY,EARLY STRENGTH SUPER PLASTYCIZER, STEEL FIBER REINFORCEMENT ETC. ORIGINAL CHALLAN SHOULD BE PRODUCED, FAILING WHICH NO PAYMENT TO BE MADE.	Cum	1067
R2-RW-10-40	Extra over above for mixing polypropylene fibers 300 e3 Multi-Dimensional Graded Fibrillated 100% Virgin as per ASTM C 1116 III Type 4.1.3 Std. at the rate of 125 gms per bag of 50 Kgs of cement etc. NOTE :THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.) NOTE: FOR SPECIAL ADMIXTUERES ITEMS SUCH AS ELKEM MICROSILICA, POLYPROPELYNE FIBER, BSF GLANIUM SKY,EARLY STRENGTH SUPER PLASTYSIZER, STEEL FIBER REINFORCEMENT ETC. ORIGINAL CHALLAN SHOULD BE PRODUCED, FAILING WHICH NO PAYMENT TO BE MADE.	Cum	439
R2-RW-10-41	Providing & Fixing of the Ferrocete precast slab (concrete grade M-25 with medium duty slab) of size 1050 mm X 500 mm X 50 mm Red, & Grey colour finish to be used as footpath over SWD in cement mortar 1:4, 12mm thk to the required level including carrying out necessary load tests @ Municipal testing laboratory @ 2 nos. per 100 nos. of slabs to be fixed.	/slab	2031
R2-RW-10-42	Cast in Situ Cement Concrete M-20 Kerb (Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M-20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408 of MORTH 5th edition, revised on 2013)		
R2-RW-10-42-a	Using Concrete Mixer	Rmt	293
R2-RW-10-42-b	Using Concrete Batching and Mixing Plant	Rmt	335

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-43	Cast in Situ Cement Concrete M-20 Kerb with Channel (Construction of cement concrete kerb with channel with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M10 grade foundation 150 mm thick, kerb channel 300 mm wide, 50 mm thick in PCC M20 grade, sloped towards the kerb, kerb stone with channel laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408)		
R2-RW-10-43-a	Using Concrete Mixer	Rmt	540
R2-RW-10-43-b	Using Concrete Batching and Mixing Plant	Rmt	584
R2-RW-10-44	P/L Controlled Low Strength Material (CLSM) having avg. compressive strength 5.0 Mpa procured from M.C.G.M. approved R.M.C. plant including use of approved makes plasticizer/ retarder & transported by transit mixer & placing at worksite, compacting, finishing, curing etc. as specified & directed by the Engineer. (MINIMUM CEMENT CONTENT 200 kg/m ³)	Cum	4410
R2-RW-10-45	Providing & laying M-60 C.C. and having avg. flexural strength of 5.0 MPa in 3 days procured from M.C.G.M. approved R.M.C. plant including use of Microsilica approved make of superplasticizer and transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.35 maximum)(vata for curing will be paid separately.) NOTE: THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.)NOTE: FOR SPECIAL ADMIXTURES ITEMS SUCH AS ELKEM MICROSILICA, POLYPROPYLENE FIBER, BSF GLANIUM SKY,EARLY STRENGTH SUPER PLASTYSIZER, STEEL FIBER REINFORCEMENT ETC. ORIGINAL CHALLAN SHOULD BE PRODUCED, FAILING WHICH NO PAYMENT TO BE MADE.	Cum	9828
R2-RW-10-46	Providing and fixing pre-cast Central Median divider Type-I of R.M.C. in M-20 C.C. on Road as per drawing, finished neatly, compacting, curing, with form work, etc, including bedding of R.M.C. of M-10 C.C, 15 cm thick, filling of joints in C.M. 1:2 & painting the exposed surface with 3 coat of road marking paint, Grade-I of approved colour and quality including required excavation in C.C., asphalt etc, and removing the same any where in City & Sub limit, levelling the same as specified and as directed by the Engineer. (Note:-Every 10 dividers shall have 40 mm. dia. hole along the center line of divider at formation level of road to drain off rain water / excess water.)	Rmt	1685

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-47	Providing and fixing pre-cast Central Median divider Type C TREE PLANTER (in pair as per drawing) of R.M.C, M-25 C.C. on Road as per drawing, finished neatly, compacting, curing, with form work, etc, including Reinforcement as per drawing, bedding R.M.C, M-10 C.C, 15 cm thick, filling of joints in C.M. 1:2 & painting the exposed surface with 3 coat of road marking paint, Grade-I of approved colour and quality including required excavation in C.C, asphalt etc. and removing the same any where in City & Sub limit, levelling the same as specified and as directed by the Engineer. (Note:-Every 10 dividers shall have 40 mm. dia. hole along the center line of divider at formation level of road to drain off rain water/ excess water.)	Rmt	4231
R2-RW-10-48	Providing and fixing pre-cast Central Median divider Type NPD-1 of R.M.C, M-25 C.C. on Road as per drawing, finished neatly, compacting, curing, form work, etc, including Reinforcement as per drawing, bedding R.M.C, M-10 C.C, 15 cm thick, filling of joints in C.M. 1:2 & painting the exposed surface with 3 coat of road marking paint, Grade-I of approved colour and quality including required excavation in C.C, asphalt etc. and removing the same any where in City & Sub limit, levelling the same as specified and as directed by the Engineer.	Rmt	5455
R2-RW-10-49	Providing and fixing pre-cast Central Median divider Type- II of R.M.C, M-20 C.C. on Road as per drawing, finished neatly, compacting, curing, form work, etc, including bedding R.M.C, M-10 C.C, 15 cm thick, filling of joints in C.M. 1:2 & painting the exposed surface with 3 coat of road marking paint, Grade-I of approved colour and quality including required excavation in C.C., asphalt etc. and removing the same any where in City & Sub limit, levelling the same as specified and as directed by the Engineer.(Note:-Every 10 dividers shall have 400 mm. dia. hole along the center line of divider at formation level of road to drain off rain water / excess water.)	Rmt	1046
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 directed. (Kerbstones shall be procured from MCGM registered agencies).	Rmt	1116

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-51	Providing and fixing of Water 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 of M-15 grade RMC 100 mm thick to required slope (inclusive of form work) jointing in 1:2 C:M. prop. flush to concrete surfaces as directed (Watertables shall be procured from MCGM registered agencies).	Rmt	799
R2-RW-10-52	Providing & fixing pre-cast concrete header for Paver Blocks on road M-50 grade pimple finish one edge chamfer size 500mm x 325mm x 150mm for joint of paver and asphalt road manufactured in wet press vacuum technology plant with excellent finish and sharp edge, fixing in R.M.C. M-15, C.C, 10 cm thk filling of joints in C.M 1:2, including excavation, form work, mixing compacting, curing etc. complete as specified and as directed.	Rmt	1157
R2-RW-10-53	Green cutting of construction & dummy joints of M-40 C.C.& above (Ultra thin white topping) slab by mechanical means within period of concrete strength @ 80 to 100 kg/ cm ² or earlier, casting of bay/ slab as directed. Transverse dummy & Longitudinal construction joints 1/2 thickness of concrete pavement & 3 to 4 mm wide.	Rmt	51
R2-RW-10-54	Providing and fixing pre-cast Central Median divider Type NPD-1A of R.M.C, M-25 C.C. on road as per drawing, finished neatly, compacting, curing, form work, etc, including Reinforcement as per drawing, bedding RMC M-10 C.C, 15 cm thick, filling of joints in C.M. 1:2 & painting the exposed surface with 3 coat of road marking paint, Grade-I of approved colour and quality including required excavation in C.C., asphalt etc. and removing the same any where in City & Sub limit, levelling the same as specified and as directed by the Engineer.	Rmt	3789
R2-RW-10-55	Excavation in reinforced OR pavement grade concrete M-20 & above by using modern machinery (poclain with rock breaker, etc.) including with stacking of excavated material within 150 m radius etc. complete upto any depth as specified & as directed, by the Engineer.	Cum	1525
R2-RW-10-56	Extra over to use sleep form paver to lay Pavement Quality Concrete as per Morth specifications & as directed by the Engineer. NOTE: THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.)	Cum	391

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-57	<p>Extra over above RW-10-33, M-40 C.C. and avg. flextural strength of 5.0 MPa in 7 days procured from M.C.G.M. approved R.M.C. plant including use of Microsilica, (MCGM Registration manufacturer) superplasticizer and fiber, transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound Contractor's water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.30 maximum) (vata for curing & fibre will be paid separately.)</p> <p>NOTE: 1) THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.) 2) FOR SPECIAL ADMIXTURES ITEMS SUCH AS ELKEM MICROSILICA, POLYPROPYLENE FIBER, BSF GLANIUM SKY, EARLY STRENGTH SUPER PLASTICIZER, STEEL FIBER REINFORCEMENT ETC. ORIGINAL CHALLAN SHOULD BE PRODUCED, FAILING WHICH NO PAYMENT TO BE MADE.</p>	Cum	3067
R2-RW-10-58	<p>Extra over above RW-10-33 for mixing Dramix fiber manufactured by BEKAERT to be used in Steel Fiber Reinforcement Concrete Pavement shall be produced from high tensile steel cold drawn wires & conform to ASTM A820 STANDARD & low carbon conforming to 10016-2-C9D. The length of fibre shall be 60mm & dia. 0.75mm making a wire network of 280m/kg. Aspect ratio (Length/Diameter) shall be 80 & Fibre Tensile Strength (Rm) > 1225 N/mm².</p> <p>NOTE : 1) THIS ITEM SHOULD BE OPERATED ONLY AFTER SPECIFIC SANCTION OF DIR(E.S.& P.) and applicable only SFRC Designed Pavement. 2) FOR SPECIAL ADMIXTURES ITEMS SUCH AS ELKEM MICROSILICA, POLYPROPYLENE FIBER, BSF GLANIUM SKY, EARLY STRENGTH SUPER PLASTICIZER, STEEL FIBER REINFORCEMENT ETC. ORIGINAL CHALLAN SHOULD BE PRODUCED, FAILING WHICH NO PAYMENT TO BE MADE.</p>	Cum	1932
R2-RW-10-59	<p>P/L in position hot poured rubberized asphalt (sealing compound) for contraction joints spaced at every 4.0 m intervals using Backer Rod. The Diameter of Backer Rod Should be approximately 25 percent greater than the width of joint to ensure a tight fit. The dimension recommended for the sealant width (W), depth (D) and recess (R) are respectively 10-12 mm, 8-10 mm and 6 mm.</p>	Rmt	33

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-10-60	Providing and fixing of the precast kerb stone of height 325mm, base width 165mm, top width 115mm in M20 grade RMC supplied through MCGM approved plant or concrete mixed with use of weigh batch mixers as detailed in drawing u/No.Dy.Ch.E./Rds/93 /E.S. of 17 / 8 / 2005 , excavation in any soil except rock, laying a levelling 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 directed. (Kerbstones shall be procured from MCGM registered agencies).	Rmt	605
R2-RW-10-61	Providing and fixing of the precast tapered water table of thickness varying from 105 to 125 mm, 300mm width in M-20 grade RMC (Supplied through MCGM approved plant) or concrete mixed with use of weigh batch mixers as detailed in drawing No.DyChE/Rds/94/E.S. dated 17.8.2005 inclusive of excavation in any soil except rock, laying of leveling course of M-15 grade RMC 100mm thick to the required slope, (inclusive of form work) jointing in 1:2 cement mortar prop. flush to concrete surfaces as directed (Water tables shall be procured from MCGM registered agencies).	Rmt	471
R2-RW-10-62	Extra Rate over and above all respective controlled concrete items for using Ready Mix Concrete (for a lead of 25 Km.) where batching plant cannot be erected.	Cum	667.45
XI	GEOSYNTHETICS AND REINFORCED EARTH		
R2-RW-11-01	Construction of sub surface drain 200 mm dia using geotextiles treated with carbon black with physical properties as given in Clause 702 (MoRTH) formed in to a stable network and a planar geocomposite structure, joints wrapped with geotextile to prevent ingress of soil, all as per Clause 702 (MoRTH) and approved drawings including excavation and backfilling (Note:- Relevant revised MoRTH clauses ammended upto date)	Rmt	2154
R2-RW-11-02	Construction of a narrow filter sub-surface drain consisting of porous or perforated pipe laid in narrow trench surrounded by a geotextile filter fabric, with a minimum of 450 mm overlap of fabric and installed as per Morth Clause 702.3 and 309.3.5 including excavation and backfilling (Note:- Relevant revised MoRTH clauses ammended upto date)	Rmt	941

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-11-03	Providing and laying paving fabric with physical requirements as per clause 708.2.1 (MoRTH) over a tack coat of paving grade Bitumen VG-10, laid at the rate of 1 kg per sqm over thoroughly cleaned and repaired surface to provide a water resistant membrane and crack retarding layer. Paving fabric to be free of wrinkling and folding and to be laid before cooling of tack coat, brooming and rolling of surface with pneumatic roller to maximize paving fabric contact with pavement surface (Note:- Relevant revised MoRTH clauses ammended upto date.)	Sqm	127
R2-RW-11-04	Providing, preparing and laying of geogrid crated apron 1 m x 5 m, 600 mm thick including excavation and backfilling with baffles at 1 metre interval, made with geogrids having characteristics as per Clause 703 (MoRTH), joining sides with connectors/ ring staples, top corners to be tie tensioned, placing of suitable cross interval ties in layers of 300 mm connecting opposite side with lateral braces and tied with polymer braids to avoid bulging, constructed as per Section 700 (MoRTH); filled with stone with minimum size of 200 mm and specific gravity not less than 2.65, packed with stone spalls, keyed to the foundation recess in case of sloping ground and laid over a layer of geotextile to prevent migration of fines, all as per Section 700 (MoRTH) and laid as per Clause 2503.3 (MoRTH) and approved design. (Note:- Relevant revised MoRTH clauses ammended upto date)	Cum	1636
R2-RW-11-05	Reinforced Earth Retaining Wall: Reinforced earth retaining walls have four main components as under: a) Excavation for foundation, foundation concrete and cement concrete grooved seating in the foundation for facing elements (facia material). b) Facia material and its placement. c) Assembling, joining with facing elements and laying of the reinforcing elements. d) Earthfill with granular material which is to be retained by the wall.)		
R2-RW-11-05-a	Facing elements of RCC	Sqm	3270
	Assembling, joining and laying of reinforcing elements.		
	With reinforcing element of steel / Aluminium strips / polymeric strips.		
R2-RW-11-05-b	1.Galvanised carbon steel strips	Rmt	724
R2-RW-11-05-c	2.Copper Strips	Rmt	724
R2-RW-11-05-d	3.Aluminium Strips	Rmt	724
R2-RW-11-05-e	4.Stainless steel strips	Rmt	724
R2-RW-11-05-f	5.Glass reinforced polymer/fibre reinforced polymer/polymeric strips	Rmt	724
R2-RW-11-05-g	With reinforcing elements of synthetic geogrids	Sqm	3314

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
XII	MAINTENANCE OF ROADS		
R2-RW-12-01	Restoration of Rain Cuts (Restoration of rain cuts with soil, murum, gravel or a mixture of these, clearing the loose soil, benching for 300 mm width, laying fresh material in layers not exceeding 250 mm and compacting with plate compactor or power rammers to restore the original alignment, levels and slopes)	Cum	221
R2-RW-12-02	Maintenance of Earthen Shoulder (filling with fresh soil) (Making up loss of material/ irregularities on shoulder to the design level by adding fresh approved soil and compacting it with appropriate equipment.)	Sqm	53
R2-RW-12-03	Maintenance of Earth Shoulder (stripping excess soil) (Stripping excess soil from the shoulder surface to achieve the approved level and compacting with plate compactor)	Sqm	13
R2-RW-12-04	Filling Pot-holes and Patch Repairs with open-Graded Premix surfacing, 20mm (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)	Sqm	134
R2-RW-12-05	Filling Pot-holes and Patch Repairs with Bituminous concrete, 40mm. (Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 504, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2 as per MORTH 5th revision 2013)		
R2-RW-12-05a	for grading I Material	Sqm	288
R2-RW-12-05b	for grading II Material	Sqm	288
R2-RW-12-06	Crack Filling (Filling of crack using slow - curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.)	Rmt	4
R2-RW-12-07	Dusting (Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.)	Sqm	4
R2-RW-12-08	Fog Seal	Sqm	48

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
	Crack Prevention courses. (Providing and laying of a stress absorbing membrane over a cracked road surface, with crack width below 6 mm after cleaning with a mechanical broom, using modified binder complying with clause 521, sprayed at the rate of 9 kg per 10 sqm and spreading 5.6 mm crushed stone aggregates @ 0.11 cum per 10 sqm with hydraulic chip spreader, sweeping the surface for uniform spread of aggregates and surface finished to conform to clause 902 as per MORTH 5th revision 2013)		
R2-RW-12-09	Crack Prevention Courses		
R2-RW-12-09-a	Providing and laying of a stress absorbing membrane over a cracked road surface, with crack width below 6 mm after cleaning with a mechanical broom, using modified binder complying with clause 521, sprayed at the rate of 9 kg per 10 sqm and spreading 5.6 mm crushed stone aggregates @ 0.11 cum per 10 sqm with hydraulic chip spreader, sweeping the surface for uniform spread of aggregates and surface finished to conform to clause 902.as per MORTH 5th revision 2013	Sqm	75
R2-RW-12-09-b	Providing and laying of a stress absorbing membrane over a cracked road surface, with crack width 6 to 9 mm after cleaning with a mechanical broom, using modified binder complying with clause 521, sprayed at the rate of 11 kg per 10 sqm and spreading 11.2 mm crushed stone aggregates @ 0.12 cum per 10 sqm, sweeping the surface for uniform spread of aggregates and surface finished to conform to clause 902. as per MORTH 5th revision 2013	Sqm	87
R2-RW-12-09-c	Providing and laying a single coatn of a stress absorbing membrane over a cracked road surface, with crack width above 9 mm and cracked area above 50 % after cleaning with a mechanical broom, using modified binder complying with clause 521, sprayed at the rate of 15 kg per 10 sqm and spreading 11.2 mm crushed stone aggregates @ 0.12 cum per 10 sqm, sweeping the surface for uniform spread of aggregates and surface finished to conform to clause 902. as per MORTH 5th revision 2013	Sqm	114
R2-RW-12-09-d	Providing and laying a bitumen impregnated geotextile layer after cleaning the road surface, geotextile conforming to requirements of clause 704.3, laid over a tack coat with 1.05 kg per sqm of paving grade bitumen 80 - 100 penetration and constructed to the requirement of clause 704.4.5 as per MORTH 5th revision 2013	Sqm	214
	Slurry Seal		
R2-RW-12-10	Providing and laying slurry seal consisting of a mixture of fine aggregates, portland cement filler, bituminous emulsion and water on a road surface including cleaning of surface, mixing of slurry seal in a suitable mobile plant, laying and compacting to provide even riding surface		

ITEM CODE	ITEM DESCRIPTION	UNIT	RATE
R2-RW-12-10-a	5 mm thickness	Sqm	74
R2-RW-12-10-b	3 mm thickness	Sqm	51
R2-RW-12-10-c	1.5 mm thickness	Sqm	32
	Surface Dressing for maintenance works.		
R2-RW-12-11	Providing and laying surface dressing as wearing course in single coat using crushed stone aggregates of specified size on a layer of bituminous binder laid on prepared surface and rolling with 8-10 tonne smooth wheeled steel roller		
R2-RW-12-11-a	19 mm nominal chipping size	Sqm	35
R2-RW-12-11-b	13 mm nominal size chipping	Sqm	56
R2-RW-12-12	Repair of joint Grooves with Epoxy Mortar Repair of spalled joint grooves of contraction joints, longitudinal joints and expansion joints in concrete pavements using epoxy mortar or epoxy concrete.	Rmt	2325
R2-RW-12-13	Repair of old Joints Sealant (Removal of existing sealant and re sealing of contraction, longitudinal or expansion joints in concrete pavement with fresh sealant material)	Rmt	58
R2-RW-12-14	Hill Side Drain Clearance (Removal of earth from the choked hill side drain and disposing it on the valley side manually)	Rmt	35
R2-RW-12-15	Land Slide Clearance in soil (Clearance of land slides in soil and ordinary rock by a bull-dozer D 80 A-12, 180 HP and disposal of the same on the valley side)	Cum	62
R2-RW-12-16	Land slide Clearance in Hard Rock Requiring Blasting (Clearing of land slide in hard rock requiring blasting for 50% of the boulders and disposal of the same on the valley side.)	Cum	145

BASIC RATES LIST ADOPTED FOR FRAMING THE SCHEDULE				
(A) Labour				
Sl. No.	Code	Description of Labour	Unit	Rate
1	LB-02	Welder	Day	539.83
2	LB-05	Bhisti (Water Man)	Day	490.68
3	LB-06	Blacksmith 1st class	Day	587.29
4	LB-07	Blacksmith 2nd class	Day	539.83
5	LB-08	Breaker/Chisller/Hole driller/Jack Hammer operator Semiskilled	Day	490.68
6	LB-09	Carpenter 1st class	Day	587.29
7	LB-10	Carpenter 2nd class	Day	539.83
8	LB-12	Coolie/Mazdoor/ Chowkidar/ Helper (Unskilled Male about)	Day	443.22
9	LB-13	Driver / Operator (for Road Roller, Concrete Mixer, vibro-rollers, Truck,Jeep etc.)	Day	539.83
10	LB-16	Fitter (grade 1) / Drilling M/c Operator / Grinding Machine operator / Erector	Day	587.29
11	LB-21	Mason (brick layer) 1st class	Day	587.29
12	LB-22	Mason (brick layer) 2nd class	Day	539.83
13	LB-23	Mazdoor/Sweeper (female)	Day	443.22
14	LB-24	Mechanic	Day	539.83
15	LB-25	Miner or Rock blaster	Day	490.68
16	LB-26	OPERATOR OF PUMP GUNITE M/C OR COMPRESSOR	Day	443.22
17	LB-27	Painter semi skilled	Day	539.83
18	LB-29	Plumber with tools 2nd class	Day	539.83
19	LB-32	Semi Skilled Labour (Beldar)	Day	443.22
20	LB-33	Supervisor/Mistry/Mukadam / Foreman/mate	Day	539.83
21	LB-36	Tile Layer	Day	539.83
(B) Usage Rates of Plant and Machinery				
Sl. No.	Code	Description of Machine	Unit	Rate
1	HC-09	Hydraulic Excavator (3D) with driver and fuel (JCB)	Day	6,500.00
2	HC-12	Poclain HC.300 (including operator & helper,diesel,etc.)	Day	29,000.00
3	HC-13	Tipper truck with 5 cum capacity	Day	4,800.00
4	HC-17	Loader	Day	6,500.00
5	HC-21	Rock breaker	Day	11,000.00
6	HC-22	Plate Compactor	Day	500.00
7	HC-27	Tractor with trolley	Day	1,850.00
8	HC-28	Air compressor 250 cfm	Day	3,300.00
	HC-28a	Mixer with weigh batcher	Day	3,000.00
9	HC-32	Concrete Mixer 0.25 to 0.40 cubic metre	Day	1,000.00
10	HC-34	Transit Mixer 4.0/4.5 cum	Hr	1,150.00
11	HC-35	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc.	Cum	200.00
12	HC-122	Transit Mixer 4 cum capacity lead beyond 1 Km, L - lead in Kilometer	tonne.km	4.05
13	HC-14	Diesel Truck - 9 tonne	tonne.km	6,000.00
	HC-31	Joint cutting machine with 2-3 blades	Day	1,200.00
14	HC-36	Concrete Pump of 45 & 30 cum capacity	Hr	150.00
15	HC-38	Water Tanker 5 to 6 KL capacity	Hr	120.00
16	HC-40	Generator 33 KVA	Hr	312.50
17	HC-42	Generator 100 KVA /125 KVA	hr	1,167.00
18	HC-43	Generator 250 kVA	Day	2,500.00
19	HC-58	Cranes 3 tonnes capacity	Hr	450.00
20	HC-77	Vibrator (Needle type 40mm)	Day	500.00
21	HC-77	Vibrator (Needle type 40mm)	Day	500.00
22	HC-78	Roller 3T	Day	3,550.00
23	HC-79	Roller 10-12 Tonne	Day	6,400.00
24	HC-81	10 Ton Vibro Roller	Day	10,000.00
25	HC-82	Screed Vibrator	Day	720.00
26	HC-80	Vibratory Roller 8 tonne	Hr	1,600.00

Appendix-A Schedule for Road Works

27	HC-83	Plate Vibrator	Day	720.00
28	HC-84	Pneumatic Road Roller	Hr	1,450.00
29	HC-85	Smooth Wheeled Roller 8 tonne	Hr	500.00
30	HC-86	Dumper	Day	2,500.00
31	HC-87	Sensor Paver (Slip form paver with Electronic Sensor)	Day	22,000.00
32	HC-88	Ordinary Paver	Day	11,000.00
33	HC-89	Mastic Cooker (without diesel)	Day	1,500.00
34	HC-90	Bitumen Pressure Distributor	Hr	1,200.00
35	HC-91	Dozer 180 HP @ 60 cum per hour	Hr	2,500.00
36	HC-94	Batching and Mixing Plant (a) 30 cum capacity	Hr	2,550.00
37	HC-115	Concrete batching and mixing plant @ 15 cum/hr.	Hr	2,010.00
38	HC-95	Production cost of the batch mix plant	Cum	500.00
39	HC-96	Hotmix Plant - 120 TPH capacity	Hr	31,700.00
40	HC-97	Hotmix Plant - 100 TPH capacity	Hr	23,500.00
41	HC-98	Hydraulic Chip Spreader	Hr	1,875.00
42	HC-99	Mechanical Broom Hydraulic	Hr	500.00
43	HC-100	Mobile slurry seal equipment	Hr	1,000.00
44	HC-101	Foden tractor trailer	Day	4,000.00
45	HC-102	Mechanical Sprayer plant	Sqm	10.00
46	HC-39	Generator blower, cutting machine water tanker etc	Shift	6,200.00
47	HC-116	Kerb casting machine	Hr	325.00
48	HC-300	PNEUMATIC TYRE ROLLER	sqm	24.28
49	MC-1	Cost of accessories & equipment (for fixing of Batch Mix Plant)	No.	32,00,000.00
50	MC-2	Fix cost of the batch mix mastic asphalt plant	No.	7,00,00,000.00
51	MC-3	Cost of accessories & equipment (for fixing of Batch Mix mastic asphalt Plant)	No.	32,00,000.00
52	MC-4	Water tanks (10000 litres capacity)	No.	1,500.00
53	MC-5	Non - tilling mixer (with weigh batcher)	No.	3,42,000.00
54	MC-6	Laboratory equipment	No.	10,00,000.00
55	MC-7	Cost of joint cutting machine with blade	No.	3,00,000.00
56	MC-8	Cost of 2 spare blades	No.	20,000.00
57	MC-9	Fixed Cost of PNEUMATIC ROLLER	No.	35,00,000.00
58	MC-10	Fix cost of the batch mix plant	No.	3,00,00,000.00
(C) Materials				
Sl. No.	Code	Description	Unit	Rate
1	MA-GN-01	Cement	MT	4,812.50
2	MA-GN-02	White CEMENT	bag	750.00
3	MA-GN-04	Artificial crushed sand	Cum	1,765.00
4	MA-GN-05	Plaster Sand	Cum	2,544.00
5	MA-GN-06	Stone Aggregate (Metal I) : 6-12 mm nominal size	Cum	1,271.19
6	MA-GN-07	Stone Aggregate (Metal II) : 20-32 mm nominal size	Cum	1,271.19
7	MA-GN-08	Stone Aggregate (Metal III) : 40 mm nominal size	Cum	1,306.50
8	MA-GN-09	RUBBLE FOR MASONARY	Cum	636.04
9	MA-GN-10	RUBBLE FOR SOLING	Cum	636.04
10	MA-GN-12	Coarse graded Granular sub-base Material 4.75 mm to 2.36 mm	Cum	1,271.19
11	MA-GN-15	Boulder with minimum size of 300 mm for Pitching at Site	Cum	873.00
12	MA-GN-16	Gravel/Quarry spall at Site- Min 40 Kg wt	Cum	950.00
13	MA-GN-17	Stone grit	Cum	1,624.29
14	MA-GN-18	Murum	Cum	850.00
15	MA-GN-20	Mild Steel bars	MT	40,000.00
16	MA-GN-21	HYSD Bars-Fe 415 (Twisted steel / deformed bars)	MT	42,000.00
17	MA-GN-24	Gunny bag	No.	7.00
18	MA-GN-27	Diesel	Ltr	67.00
19	MA-GN-28	PETROL	Ltr	81.00

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20	MA-GN-31	Binding wire	Kg	60.00
21	MA-GN-32	Water	Ltr	0.15
22	MA-GN-33	Bricks 4"	1000 Nos.	5,000.00
	MA-GN-43	RMC M40	Cum	5,600.00
24	MA-RW-003	Colour Cement	bag	1,841.00
25	MA-RW-004	Lime	Kg	6.00
26	MA-RW-006	Stone Aggregate : 63 Mm Nominal Size	Cum	671.00
27	MA-RW-017	L.D.O	Ltr	34.00
28	MA-RW-018	Emulsion Rs	Ltr	28.00
29	MA-RW-019	Cut Back	Ltr	36.00
30	MA-RW-020	Bitu Men 30/40 (VG-40)	Kg	26.54
31	MA-RW-021	Bitumen (60-70 grade)/ VG-30	Kg	25.04
32	MA-RW-022	Bitumen 10/20	Kg	24.24
33	MA-RW-023	CRM B -60	Kg	22.50
34	MA-RW-024	PMB -40	Kg	28.50
35	MA-RW-133	Road Marking Paint - Yellow White Black Oil Based	Ltr	203.00
36	MA-RW-026	Jointsealing Compund	Kg	50.00
37	MA-RW-027	Asphalt Filler Sheet12 mm Thk	Sqm	220.00
38	MA-RW-029	Primer For Jointsealing	Ltr	87.00
		Interlocking Paver Blocks (Supply of paver block including Transporting loading, unloading to the site)		
39	MA-RW-030	60 mm thick unishape concrete pavers	Sqm	475.00
40	MA-RW-031	80 mm thick unishape concrete pavers	Sqm	550.00
41	MA-RW-032	80 mm thick unishape gray cement concrete interlocking pavers	Sqm	592.00
42	MA-RW-033	60 mm thick unishape gray cement concrete interlocking pavers	Sqm	572.00
43	MA-RW-034	60 mm thick Lacquer coated (Reflective) interlocking gray cement concrete pavers	Sqm	540.00
44	MA-RW-035	80 mm thick gray cement concrete Lacquer coated (Reflective) interlocking pavers (Terra Cotta)	Sqm	678.00
45	MA-RW-036	100 mm thick interlocking concrete unishape pavers	Sqm	687.00
46	MA-RW-037	100 mm thick gray cement concrete unishape pavers (Terra Cotta)	Sqm	807.00
47	MA-RW-038	60 mm thick Lacquer coated (Reflective) interlocking white cement concrete pavers	Sqm	592.00
48	MA-RW-039	80 mm thick Lacquer coated (Reflective) interlocking white cement concrete pavers	Sqm	725.00
49	MA-RW-040	60mm thick Beganit concrete paver block with Stone texture on top surface	Sqm	1,051.00
50	MA-RW-041	Concrete Paving Slabs(Flagstone) 400X400X60mm thick	Sqm	807.00
51	MA-RW-042	Concrete Paver blocks 200X200X60mm thick	Sqm	678.00
52	MA-RW-043	Concrete Paver blocks 200X200X80mm thick	Sqm	1,186.00
53	MA-RW-044	Concrete cobbles 100X100X60mm thick with shot blasted texture	Sqm	690.00
54	MA-RW-045	60 mm thick Heritage paver interlocking white cement concrete pavers	Sqm	1,829.00
55	MA-RW-046	80 mm thick Heritage paver interlocking white cement concrete pavers	Sqm	2,416.00
56	MA-RW-050a	Coloured Granite of size 200 x 200 x 40mm thick	Sqm	1,722.40
57	MA-RW-048	Vitrified Ceramic Topping Paver Blocks of size 150 x 150 x 80mm thick	Sqm	1,022.68
58	MA-RW-049	Vitrified Ceramic Topping Paver Blocks of size 150 x 150 x 60 mm thick	Sqm	807.38
59	MA-RW-050	Concrete cobbles 150X150X80mm thick	Sqm	1,253.00
60	MA-RW-051	RED & BLACK GRANITE cobble stones of 100mm x 100mm x 100mm	Sqm	1,750.00
61	MA-RW-052	Cobble Stone in size: 100 x 100 x 100mm in grey colour	Sqm	1,700.00

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62	MA-RW-053	60 mm combi paver	Sqm	1,181.00
63	MA-RW-054	Stone colour Wall Tile	Sqm	1,075.00
64	MA-RW-055	Cement Concrete Precast Header of M-50 grade IN WHITE CEMENT with COLOUR of size: 500 mm length x 325 mm height x 150 mm thick	Rmt	1,012.00
65	MA-RW-056	Cement concrete Kerb Stone of M-25 grade IN WHITE CEMENT with COLOUR of size: 500mm width x 325 height x 165mm thick (Half Batter, Bull Nose / Full Batter)	Rmt	779.00
66	MA-RW-129	Precast Slab 1050x500x45 (M-25)	No.	1,365.10
67	MA-RW-130	Water Dished Channel size : 600 x 300 x 80mm (M-40 grade)	Rmt	373.00
68	MA-RW-131	Pre-cast concrete header for Paver Blocks- size 500mm x 325mm x 150mm(M-50)	Rmt	619.30
69	MA-RW-132	Cement concrete Kerb Stone of various grades of size: 500mm width x 325 height x 165mm thick (Half Batter, Bull Nose / Full Batter)	Rmt	597.00
70	MA-RW-057	Emulsion SS1	Ltr	26.50
71	MA-RW-058	Antistripping Agent	Ltr	80.00
72	MA-RW-059	Emulsion MS	Ltr	20.00
73	MA-RW-060	Lub. Oil	Ltr	120.00
74	MA-RW-061	Coaltar For Shuttering	Ltr	38.00
75	MA-RW-062	Additives (Portland cement)	Kg	6.00
76	MA-RW-063	Carbon core 20mm thk	MT	42,570.00
77	MA-RW-064	Wonder patch 20mm thk	MT	20,873.00
78	MA-RW-065	Wonder binder	Kg	513.00
79	MA-RW-066	Steel Fibres	Kg	83.00
80	MA-RW-067	Thermacol 5 mm Thick	Sqm	17.00
81	MA-RW-068	G.I. corrugated sheet of 2.44*0.75 m.	Sheet	530.00
82	MA-RW-069	Ballis 3"Ø	No.	224.00
83	MA-RW-071	R.C.C. Hume Pipe 150Mm Dia (NP 2 Class)	Rmt	210.00
84	MA-RW-072	R.C.C. Hume Pipe 250 Mm Dia (NP 2 Class)	Rmt	330.00
85	MA-RW-073	R.C.C. Hume Pipe 300 Mm Dia (NP 2 Class)	Rmt	412.50
86	MA-RW-074	Shahabad Stone 23X15X5 cm	No.	13.00
87	MA-RW-075	Hassan Cloth	Sqm	13.00
88	MA-RW-076	High Density Polythene Pipe (H.D.P.Pipe)(30Cm. Long With Cap)	No.	10.00
89	MA-RW-077	Waterproof Paper 40 Gsm	Sqm	8.00
90	MA-RW-078	Admixture	Ltr	76.00
91	MA-RW-079	Curing Compound	Ltr	76.00
92	MA-RW-083	Stone crusher dust finer than 3mm with not more than 10% passing 0.075 sieve.	Cum	1,404.00
94	MA-RW-094	Bitumen (80-100 grade)/ VG-10	MT	24,240.00
95	MA-BW-039	Bitumen (emulsion)	MT	35,692.00
96	MA-BW-042	Bitumen (modified graded)	MT	44,924.00
97	MA-RW-099	Connectors/ Staples	Each	12.00
98	MA-BW-056	Electric Detonators @ 1 detonator for 1/2 gelatin stick of 125 gms each	100 Nos.	2,530.00
99	MA-BW-057	Epoxy compound with accessories for preparing epoxy mortar	Kg	1,650.00
100	MA-BW-059	Epoxy primer	Kg	190.00
101	MA-BW-064	Gelatin 80%	Kg	127.00
102	MA-RW-104	Geo grids	Sqm	105.47
103	MA-RW-105	Geomembrane	Sqm	375.87
104	MA-RW-106	Geonets	Sqm	626.08
105	MA-RW-107	Geotextile	Sqm	125.00
106	MA-RW-108	Geotextile filter fabric	Sqm	125.58
107	MA-RW-109	Joint Sealant Compound	Kg	136.00
108	MA-RW-110	Paving Fabric	Sqm	62.79
109	MA-RW-111	Perforated geosynthetic pipe 150 mm dia	Rmt	197.00
110	MA-RW-112	Polymer braids	Rmt	479.00
111	MA-RW-113	Primer	Kg	159.00
112	MA-RW-114	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Copper Strips)	Rmt	491.00

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113	MA-RW-115	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Galvanised carbon steel strips)	Rmt	491.00
114	MA-RW-116	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Glass reinforced polymer/fibre reinforced polymer/polymeric strips)	Rmt	491.00
115	MA-RW-117	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Stainless steel strips)	Rmt	491.00
116	MA-RW-118	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. Aluminium strips)	Rmt	491.00
117	MA-BW-095	Super plastisizer admixture IS marked as per 9103-1999	Kg	190.00
118	MA-RW-120	Synthetic Geogrids as per clause 3102.8 and approved design and specifications.	Sqm	2,252.25
119	MA-BLD-HW-5	Unstaked lime	MT	600.00
120	MA-RW-134	20 ltr. Capacity drum	No.	38.00
121	MA-RW-135	Ice flakes	Kg	2.20
122	MA-RW-136	Matrex cold patch 25 mm thk	MT	20,241.00
123	MA-RW-137	Special Admixtures =ELECIUM-51	Ltr	125.00
124	MA-RW-138	Special Admixtures = GLANIUMSKY784	Ltr	128.00
125	MA-RW-139	Polypropylene fibers	Kg	300.00
126	MA-RW-140	Fly ash	Kg	1.98
127	MA-RW-141	Elkem Microsilica	Kg	40.70
128	MA-RW-142	Admixtures BASF Glanium SKY784	Ltr	128.00
129	MA-BLD-GN-25	Plasticizer / super plasticizer	Kg	40.00
130	MA-BLD-PN-11	Synthetic enamel/ Oil paint	Ltr	123.55
131	MA-BLD-PN-10	Primer for oil paint	Ltr	114.60
132	MA-RW-123	Mould @ Rs. 3000 @ 100 repetitions	No.	42.00
133	MA-RW-124	Mould @ Rs. 3500 @ 100 repetitions	No.	48.00
132	MA-RW-127	Supplying 600 mm x 900 mm frame & cover	No.	13,035.00
133	MA-RW-128	Supplying 900mmx900mm frame & cover	No.	17,250.00
136	MA-RW-300	Conversion & Transportation Charges	MT	2,900.00
132	MA-RW-129a	Backer Rod	Rmt	8.00
133	MA-RW-143	Kerb stone 30 cm.to 40 cm. long., 15 cm. wide, 38 cm. deep	No.	87.00
134	MA-RW-144	Water tables of stone of size 30 cm wide and 10 cm thick	No.	38.00
135	MA-RW-145	Setts Stone of size 15 cm. to 25 cm. long, 10 cm. wide and 15 cm. deep	No.	16.00
136	MA-RW-146	Sapling	Each	59.00
137	MA-RW-147	Polyethylene plastic water/sand fillable Metro Barricades having approx. size 1840mm. X 440mm. X 1900mm., (LxWxD)	No.	5,800.00
138	MA-RW-148	Polyethylene plastic water/sand fillable Barricades having approx. size 2000mm. X 560mm. X 1000mm., (LxWxD)	No.	4,500.00
139	MA-RW-149	Structural Steel Barricades	MT	73,692.00
140	T-50	Transportation charges	Shift	3,500.00
141	CS-EW-50	Carting Charges OF HAND CART	Trip	36.30
142				
142	MA-RW-200	RMC M20	Cum	4,800.00

Appendix-ASchedule for Road Works

		Direct Used Items/common Schedule / Transportation Charges		
1	CS-EW-15 & 16	Excavation over area of roads	Cum	213.84
2	CS-CW-1-c	Cement Concrete - Nominal Mix of 1:3:6 -M10	Cum	4,790.51
3	CS-a	Cement Concrete - Nominal Mix of 1:3:6 -M10 - 100 mm thick	Sqm	479.05
4	CS-CW-1-a	P/L RM M-20 grade concrete for RCC work (using cement @ 330 kg/cum) - All work upto plinth level	Cum	5,312.18
5		Providing and laying in position machine batched and machine mixed design mix M-40 grade	Cum	
6	CS-CW-7d	Lintels, beams, plinth beams, girders, floor beam, coping.	Cum	7,241.43
7	CS-CW-19	Extra and over for providing richer RMC of M-40 grade cement concrete instead of M20	Cum	1,064.00
8	CS-CW-30-a	Formwork	Sqm	225.93
9				
10	CS-PW-56	Cement Mortar 1:6 (1 Cement: 6 Coarse/ Fine Sand)	Cum	3,955.62
11	CS-CW-35-a	Reinforcement for R.C.C. work all complete. -Upto plinth level Mild steel bars.	MT	53,105.08
12	CS-SS-01	Providing, detailing, fabricating and fixing at desired location using hot rolled sections and MS Plates of grade Fe 250 as per specifications and approved fabrication drawings	MT	60,195.20
13	R2-CS-MW-3-b	Providing and constructing Brick masonry 230 mm thick (IInd sort) in c.m. 1:4	Cum	5,470.55
14	T-1	Transportation of Surplus Items (lead 3 km)-Earth	Cum	284.66
15	T-2	Transportation of Surplus Items (lead 3 km)-Excavated rock	Cum	455.46
16	T-3	Transportation of Surplus Items (lead 25 km)-(eg.Earth)	Cum	707.26
17	T-4	Beyond 3 km,per km lead - Excavated rock	Cum	30.73
18	T-5	Transportation of Surplus Items (lead 25 km)-(eg.rock)	Cum	1,131.62
19	T-6	Excavation including Transportation (25 km)	Cum	1,345.46
20	T-7	Material Transport to site anywhere in City	MT	502.94
21	T-8	Cost of transportation (FROM RMC PLANT)	Cum	502.94
22	T-9	Transport & sprading of hot bitumen any where in city/ Suburbs using mechanical sprayer	MT	1,005.88
23	T-10	Lead for E/W borow area to site	km	8.00
24	T-11	Lead from Mixing Plant to working site	km	20.00
25	T-12	Transportation of frame & covers = 4200 / trip / 105 nos	No.	50.00
26	T-13	Transportation of frame & covers = 4200 / trip / 70 nos	No.	70.00
	T-11 & T-13	Avg of T-11 & T-13	cum	45.00
27	OT-1	Electricity	LS	50.00
28	CS-PN-4-c	Oil paint/ synthetic enamel paint in two coats with one coat of primer for Steelwork	Sqm	103.12
29	DI 1.03	Pre-cast RCC M-35 facing elements of size as per design and 18 cm thick for 75 sqm.	Cum	13,320.00
30	CS-CW-35-b	HYSD steel @ 5 kg / sqm	MT	55,205.08
31	R2-DC-10	C.M. 1 :2 for resting frame 20 mm thicks	Cum	5,708.55
32	CS-FL-74	Basic Cost of Mortar CM 1:4	Cum	3,745.79
33	DI 3.00	Plant charges	MT	228.52
34	DI 4.00	Cost of Mechaical Sprayer plant	Sqm	8.00
		Lead from Mixing Plant to working site	km	20.00
		Transportation cost for 25 km	Cum	667.45
35	OT-2	Electricity 2	LS	35.00
36	DI 10.0	Cost of Mechaical Sprayer plant 2	Sqm	8.00
37	OT-3	Electricity 3	ls	5.00

Appendix-ASchedule for Road Works

38	MA-200	Headers 10 nos.	cum	3,950.54
39	DI-11a	Rolling by vibratory roller 8-10T	Sqm	6.99
40	DI-12	Sensor Pavers and rollers 10T Vibratory + Power + Pneumatic	Sqm	30.78
41	DI-13	Pavers and rollers 2	sqm	18.64
42	DI-14	Pavers and rollers 3	sqm	14.01
43	DI-15	Pavers and rollers 4	sqm	6.99
44	DI-16	Rolling by Vibratory Roller rate	sqm	7.41
45	DI-17	Fix cost of the milling plant	No.	2,39,21,700.00
46	DI-18	Cost of generator (for fixingPlant)	No.	33,66,000.00
47	DI-19	Cost of JCB	No.	25,00,000.00
48	DI-20	Cost of Weigh bridge	No.	8,80,000.00
49	DI-21	Fencing	Rmt	2,750.00
50	DI-22	Spreading Sensor Paver	sqm	11.44
51	DI-23	Spreading Ordinary Paver / Motor grader - 10 x 4.00	sqm	7.01
52	MA-201	For 10% Breakage Area (100 mm thick interlocking)	sqm	747.00
53	CS-EW-101	Excavator including Transporation for fixing the Edge restrain	cum	170.16
54	MA-202	Cost for P.C.C.(M15) for 1Cu.m	cum	4,851.46
55	MA-203	10 % breakrage of Combi paver (Avg.)	sqm	1,541.56
56	MA-204	M.S. angle 50*50*5	mt.	166.12
57	MA-205	1:3:6 CC	cum	4,790.51
58	CS-CW-102	Cost of M - 15 bed CC, 15 cm thick as per 35	cum	3,950.54
59	CS-CW-103	Laying of sensor paver	sqm	7.01
60	DI-11b	Rolling by vibratory roller b	sqm	7.41
61	DI-11c	Rolling by vibratory roller c	sqm	18.64
62	DI-11d	Rolling by vibratory roller 3T	sqm	4.14
63	DI-11e	Rolling by vibratory roller 10T & Paver	sqm	14.01
64	DI-11f	Rolling by vibratory roller f	sqm	18.44
65	CS-CW-1-b	Cement Concrete - Nominal Mix of 1:2:4 -M15	Cum	5,185.62
		Contractor's profit and Overhead charges	15%	
1	LB-LM-01	Plant operator	Month	18,000.00
2	LB-LM-02	Mastic Mixer Driver	Month	10,800.00
3	LB-LM-03	Paver operator	Month	24,000.00
4	LB-LM-04	Roller Operator	Month	14,400.00
5	LB-LM-05	Helper	Month	7,200.00
6	LB-LM-06	Quality control Engineer	Month	30,000.00
7	LB-LM-07	Loader Operator	Month	10,800.00
8	LB-LM-08	Laboratory Chemist	Month	10,081.20
9	LB-LM-09	Plant Manager	Month	30,000.00
10	LB-LM-10	Laboratory Asst. Chemist	Month	10,800.00
11	LB-LM-11	Junior Engineer	Month	18,000.00
12	LB-LM-12	Mechanic	Month	18,000.00
13	LB-LM-13	Electrician	Month	10,800.00
14	LB-LM-14	Supervisor	Month	10,800.00
15	LB-LM-15	Security supervisor	Month	10,800.00
16	LB-LM-16	Watchman	Month	7,200.00
17	LM-22	Land Development	Sqm	120.00
18	LM-23	Power and water connection(for batch mix plant)	lumpsum	9,60,000.00
19	LM-24	Road	Sqm	1,200.00
20	LM-25	Office and laboratory (for batch mix plant)	Sqm	7,200.00
21	LM-26	Land Cost	Sqm	1,080.00
22	LM-27	Screed Vibrator	No.	36,000.00
23	LM-28	Plate Vibrator	No.	26,400.00
24	LM-29	Needle Vibrator	No.	18,000.00